# Service Manual

ORDER NO.
**RRV2191**

## DVD PLAYER
# DV-626D

### THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Type | Model | Power Requirement | Region No. | Remarks |
|---|---|---|---|---|
| | DV-626D | | | |
| KU | ◯ | AC120V | 1 | |
| KC | ◯ | AC120V | 1 | |
| WY | ◯ | AC220 - 240V | 2 | |
| WV | ◯ | AC220 - 240V | 2 | |

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**PIONEER CORPORATION** 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
**PIONEER ELECTRONICS SERVICE, INC.** P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
**PIONEER ELECTRONIC (EUROPE) N.V.** Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
**PIONEER ELECTRONICS ASIACENTRE PTE. LTD.** 253 Alexandra Road, #04-01, Singapore 159936


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# 1. SAFETY INFORMATION

**This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**
**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

**WARNING**
**This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.**

**Health & Safety Code Section 25249.6 – Proposition 65**

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

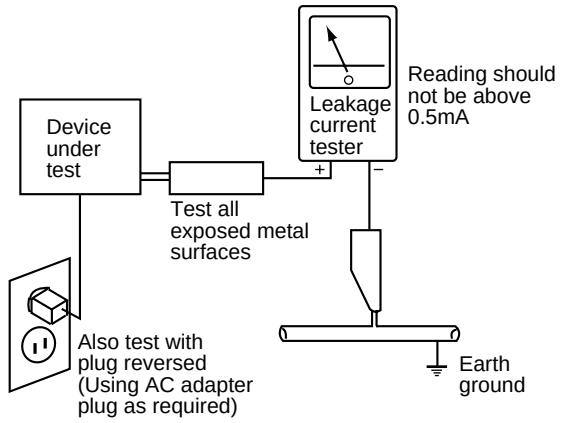
**(FOR USA MODEL ONLY)**

## 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

**LEAKAGE CURRENT CHECK**

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.**

## 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

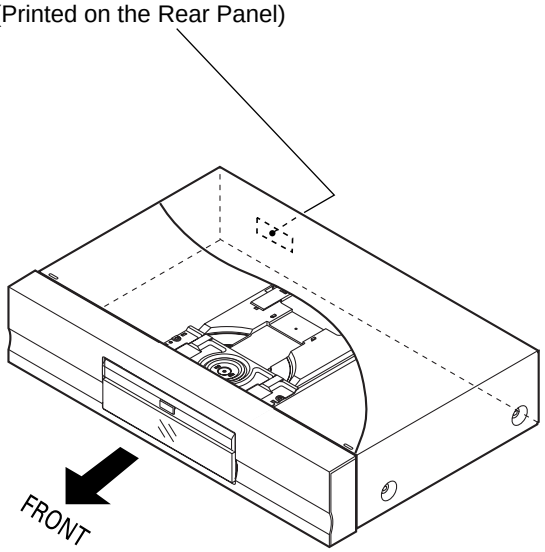
FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 655 nm
FOR CD : MAXIMUM OUTPUT POWER : 5mW
WAVELENGTH : 785 nm

# LABEL CHECK

**WY and WV types**

CLASS 1
LASER PRODUCT

(Printed on the Rear Panel)




**Additional Laser Caution**

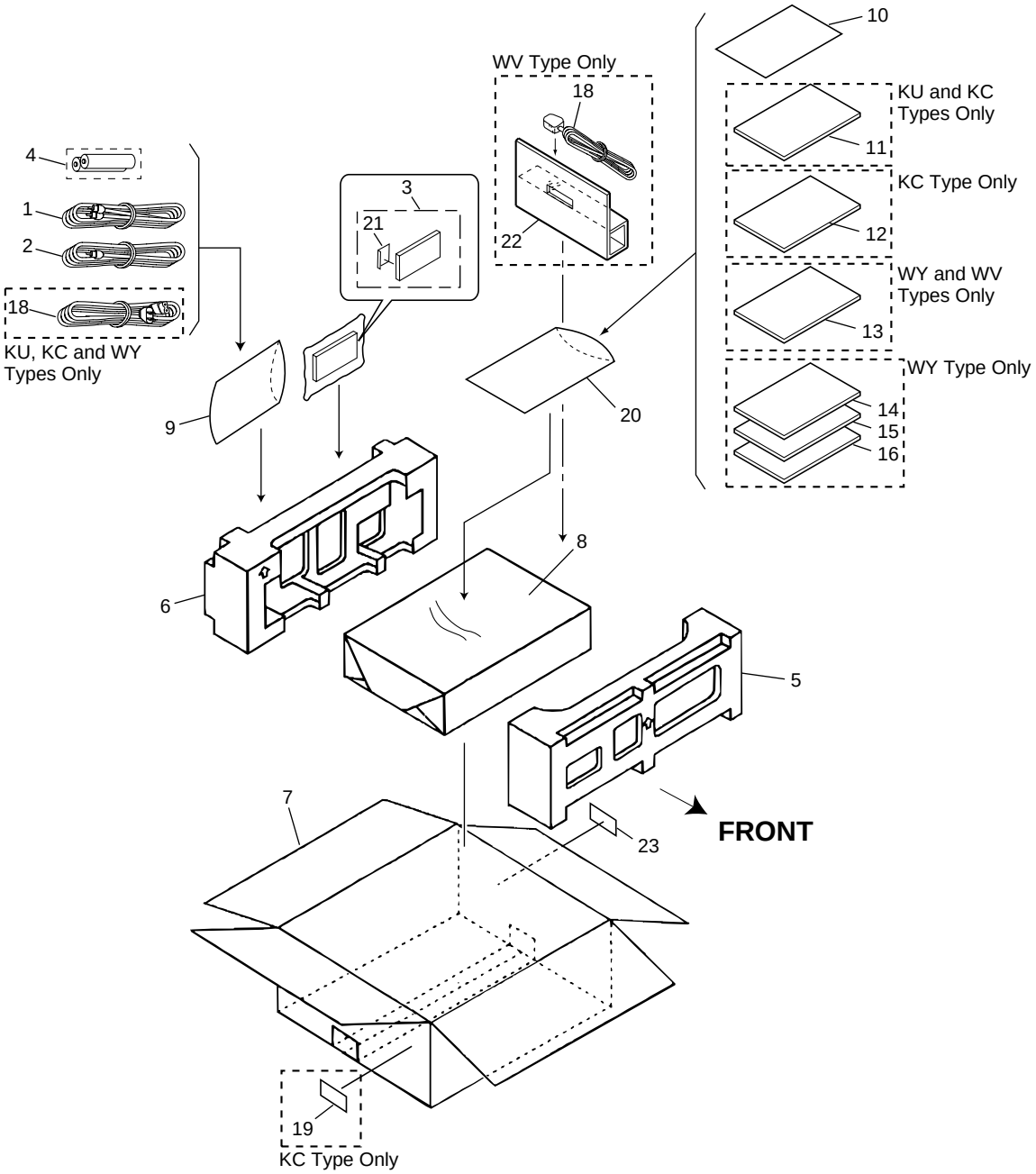
1. Inside detection switch (S201 on the SMEB assy) and loading-status detection switch (S301 on the LOSB assy) are detected by the microprocessor (IC11 in the DVDM assy).
   • To permit the laser diode to oscillate, it is required to set the inside detection switch for the inside position (S201 : ON) and to set the loading-status detection switch for the clamp position (the center terminal of S301 is shorted to +5V). The 650 nm laser diode for DVD oscillation will continue if pin 19 of IC1 is shorted to +5V (fault condition) in the DVDM assy.
   The 780 nm laser diode for CD oscillates if pin 20 of IC1 is shorted to +5V in the DVDM assy.
   In the test mode ∗ , the laser diode oscillates when microprocessor detects a PLAY signal, or when the PLAY key is pressed (S106 ON in the FLKY assy), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

∗ : See page 61.

# 2. EXPLODED VIEWS AND PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

## 2.1 PACKING



## (1) PACKING PARTS LIST

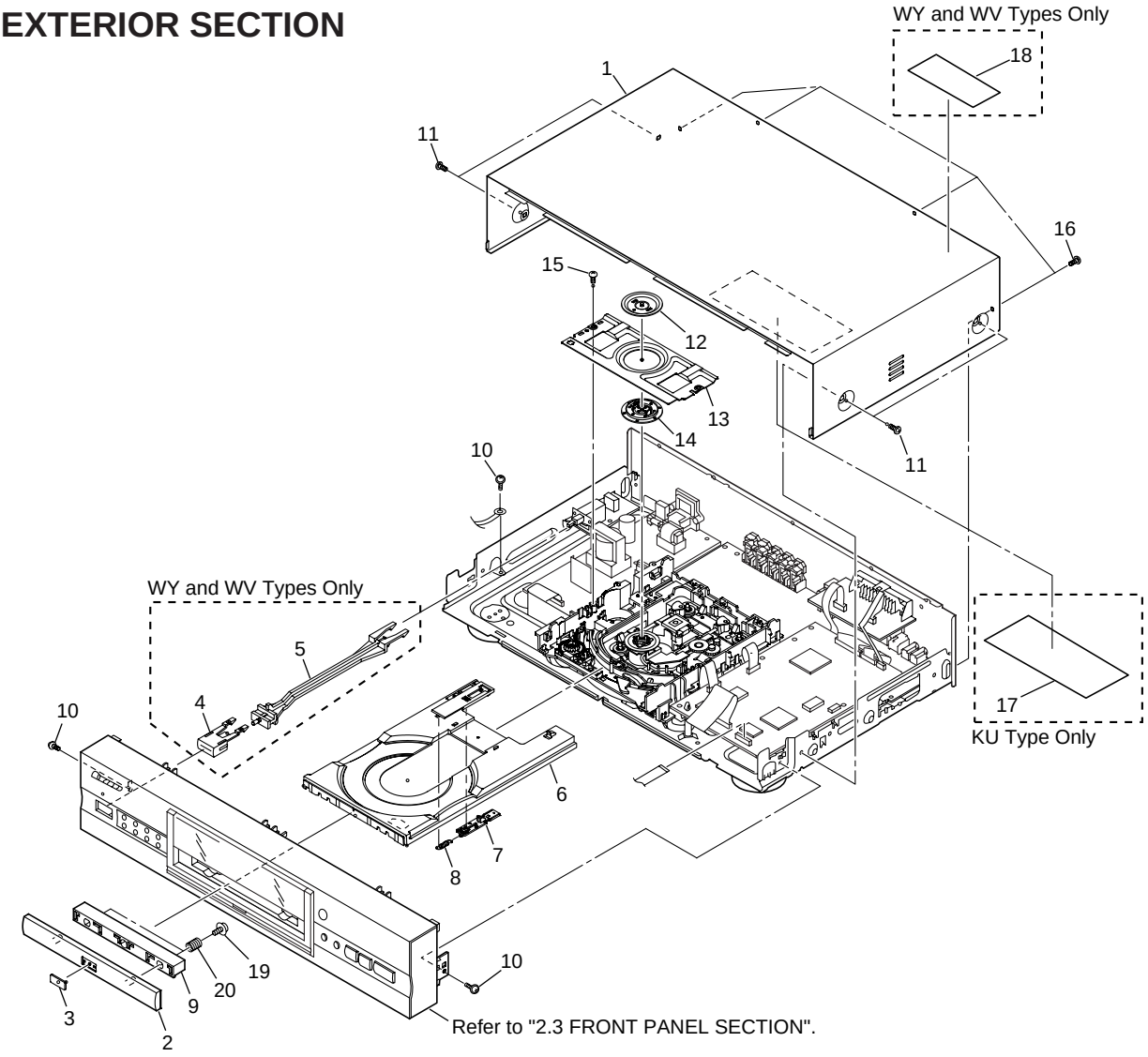
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Audio Cord (L = 1.5m) | VDE1033 |
| | 2 | Video Cord (L = 1.5m) | VDE1034 |
| | 3 | Remote Control Unit | See Contrast table (2) |
| NSP | 4 | Dry Cell Battery (R6P, AA) | VEM-013 |
| | 5 | Pad F | VHA1238 |
| | 6 | Pad R | VHA1239 |
| | 7 | Packing Case | See Contrast table (2) |
| | 8 | Mirror Mat Sheet (750 × 600 × 0.05) | Z23-007 |
| | 9 | Polyethylene Bag (0.03 × 200 × 300) | VHL1051 |
| NSP | 10 | Warranty Card | See Contrast table (2) |
| | 11 | Operating Instructions (English) | See Contrast table (2) |
| | 12 | Operating Instructions (French) | See Contrast table (2) |
| | 13 | Operating Instructions (English/French) | See Contrast table (2) |
| | 14 | Operating Instructions (German/Italian) | See Contrast table (2) |
| | 15 | Operating Instructions (Spanish/Portuguese) | See Contrast table (2) |
| | 16 | Operating Instructions (Dutch/Swedish) | See Contrast table (2) |
| | 17 | • • • • • | |
| ⚠ | 18 | Power Cord | See Contrast table (2) |
| | 19 | KC Label | See Contrast table (2) |
| | 20 | Polyethylene Bag (0.03 × 200 × 300) | See Contrast table (2) |
| | 21 | Battery Cover | See Contrast table (2) |
| | 22 | Cord Holder | See Contrast table (2) |
| NSP | 23 | Label | VRW1629 |

## (2) CONTRAST TABLE

DV-626D/KU, KC, WY and WV are constructed the same except for the following :

| Mark | No. | Symbol and Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | KU Type | KC Type | WY Type | WV Type | |
| | 3 | Remote Control Unit (CU-DV036) | VXX2627 | VXX2627 | Not used | Not used | |
| | 3 | Remote Control Unit (CU-DV050) | Not used | Not used | VXX2644 | VXX2644 | |
| | 7 | Packing Case | VHG1825 | VHG1825 | VHG1827 | VHG1860 | |
| NSP | 10 | Warranty Card | ARY7023 | ARY7024 | ARY7022 | ARY7022 | |
| | 11 | Operating Instructions (English) | VRB1225 | VRB1225 | Not used | Not used | |
| | 12 | Operating Instructions (French) | Not used | VRC1096 | Not used | Not used | |
| | 13 | Operating Instructions (English/French) | Not used | Not used | VRD1092 | VRD1092 | |
| | 14 | Operating Instructions (German/Italian) | Not used | Not used | VRD1093 | Not used | |
| | 15 | Operating Instructions (Spanish/Portuguese) | Not used | Not used | VRD1094 | Not used | |
| | 16 | Operating Instructions (Dutch/Swedish) | Not used | Not used | VRD1095 | Not used | |
| ⚠ | 18 | Power Cord | ADG7021 | ADG7021 | ADG1127 | ADG7004 | |
| | 19 | KC Label | Not used | VRW1716 | Not used | Not used | |
| | 20 | Polyethylene Bag (0.03 × 200 × 300) | VHL1051 | VHL1051 | Not used | Not used | |
| | 20 | Polyethylene Bag (0.03 × 230 × 340) | Not used | Not used | Z21-038 | Z21-038 | |
| | 21 | Battery Cover | VNK4423 | VNK4423 | AZA7204 | AZA7204 | |
| | 22 | Cord Holder | Not used | Not used | Not used | VHC1049 | |

## 2.2 EXTERIOR SECTION




### (1) EXTERIOR SECTION PARTS LIST

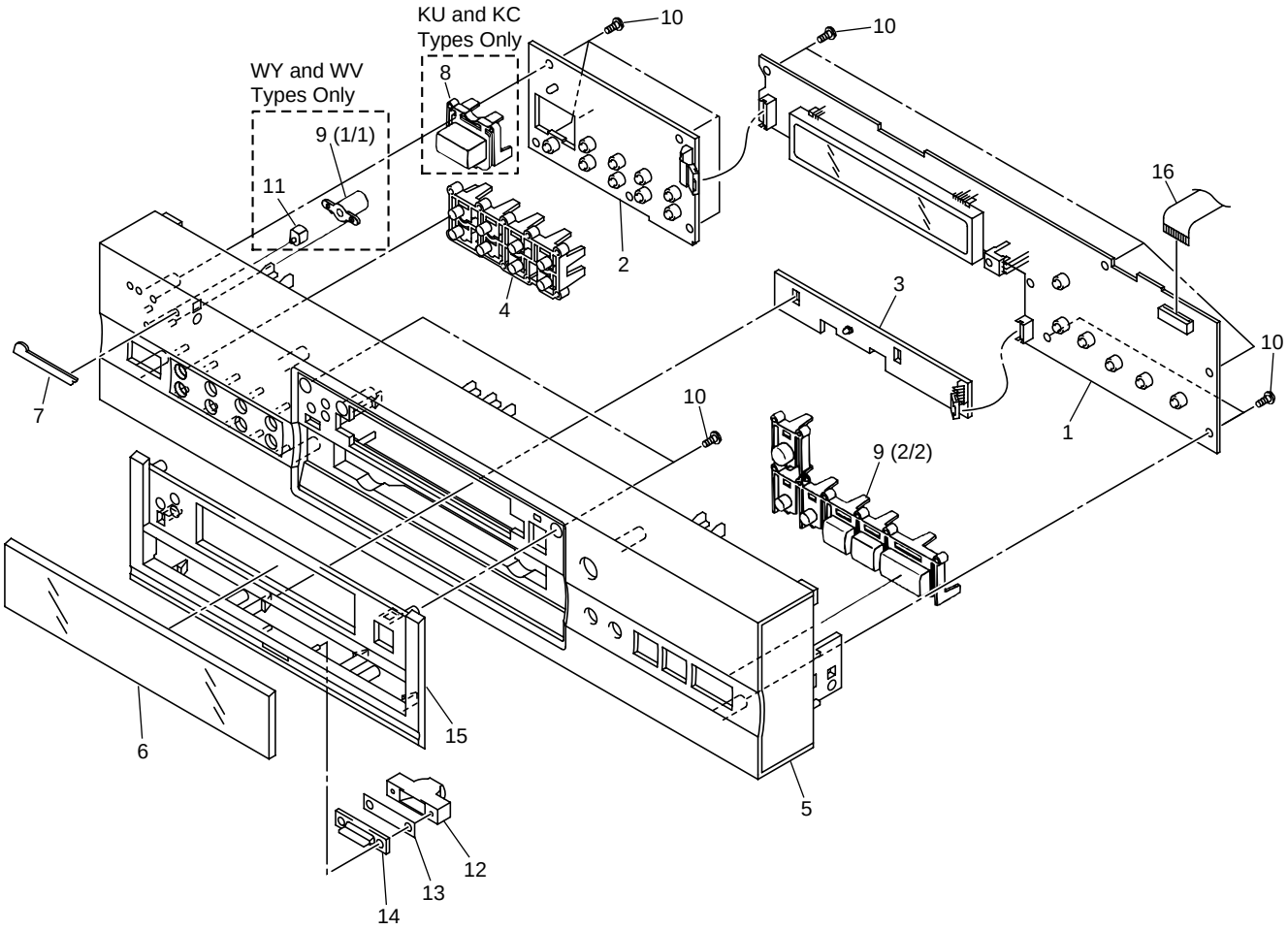
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Bonnet S | VXX2651 |
| | 2 | Door Panel | VNK4450 |
| | 3 | DVD Plate | VAM1088 |
| | 4 | POWER Button | See Contrast table (2) |
| | 5 | PW Button Joint | See Contrast table (2) |
| | 6 | Tray | VNL1731 |
| | 7 | Tray Stopper | VNL1739 |
| | 8 | Tray Stopper Spring | VBH1277 |
| | 9 | Door Holder | VNK4509 |
| | 10 | Screw | IBZ30P080FMC |
| | 11 | Screw | BCZ40P060FZK |
| | 12 | Clamper Plate | VNE2068 |
| | 13 | Bridge | VNE2069 |
| | 14 | Clamper | VNL1738 |
| | 15 | Screw | BPZ26P080FZK |
| | 16 | Screw | BBZ30P080FMC |
| | 17 | 65 Label | See Contrast table (2) |
| | 18 | Caution Label | See Contrast table (2) |
| | 19 | Screw | VBA1057 |
| | 20 | Door Spring | VBH1305 |

### (2) CONTRAST TABLE

DV-626D/KU, KC, WY and WV are constructed the same except for the following :

| Mark | No. | Symbol and Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | KU Type | KC Type | WY Type | WV Type | |
| | 4 | POWER Button | Not used | Not used | VNK4184 | VNK4184 | |
| | 5 | PW Button Joint | Not used | Not used | VNK4179 | VNK4179 | |
| | 17 | 65 Label | ARW7050 | Not used | Not used | Not used | |
| | 18 | Caution Label | Not used | Not used | VRW1699 | VRW1699 | |

## 2.3 FRONT PANEL SECTION




### (1) FRONT PANEL SECTION PARTS LIST

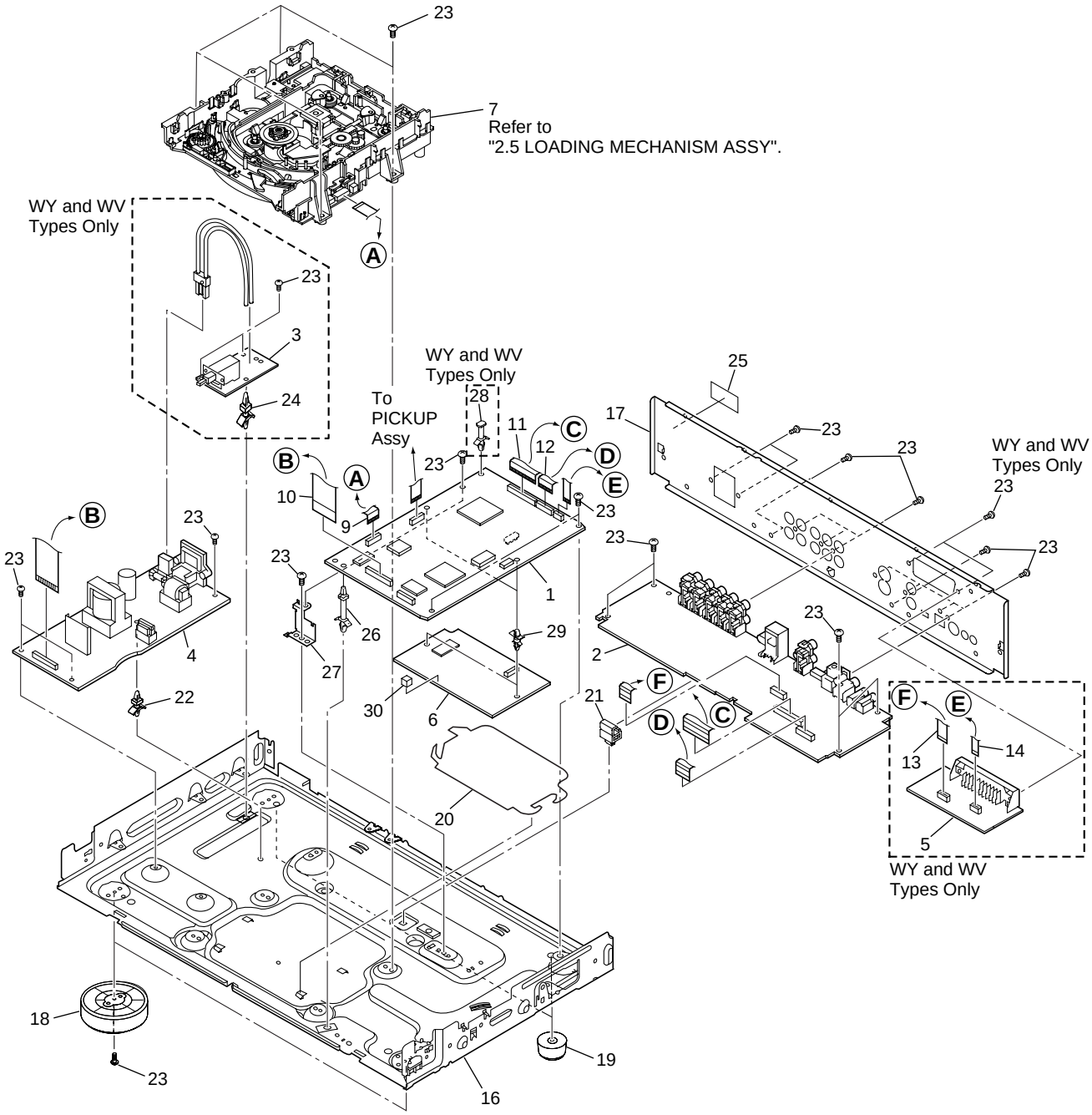
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | FLKY Assy | See Contrast table (2) |
| NSP | 2 | PWSB Assy | See Contrast table (2) |
| NSP | 3 | DILB Assy | VWG2099 |
| | 4 | 8 Key | VNK4462 |
| | 5 | Front Panel | See Contrast table (2) |
| | 6 | FL Lens | See Contrast table (2) |
| | 7 | Name Plate | PAM1776 |
| | 8 | PW Button (POWER) | See Contrast table (2) |
| | 9 | Main Key | VNK4447 |
| | 10 | Screw | BBZ30P080FMC |
| | 11 | LED Lens | See Contrast table (2) |
| | 12 | Illumi Holder | VNK4098 |
| | 13 | Illumination Filter | VEC1950 |
| | 14 | Illumination Lens | VNK4168 |
| | 15 | Sub Panel | VNK4453 |
| | 16 | Flexible Cable (15P) (FLKY CN101 ↔ DVDM CN602) | VDA1728 |

### (2) CONTRAST TABLE

DV-626D/KU, KC, WY and WV are constructed the same except for the following :

| Mark | No. | Symbol and Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | KU Type | KC Type | WY Type | WV Type | |
| | 1 | FLKY Assy | VWG2089 | VWG2089 | VWG2090 | VWG2090 | |
| NSP | 2 | PWSB Assy | VWG2094 | VWG2094 | VWG2095 | VWG2095 | |
| | 5 | Front Panel | VNK4460 | VNK4460 | VNK4440 | VNK4440 | |
| | 6 | FL Lens | VEC2062 | VEC2062 | VEC2055 | VEC2055 | |
| | 8 | PW Button (POWER) | VNK4101 | VNK4101 | Not used | Not used | |
| | 11 | LED Lens | Not used | Not used | PNW2019 | PNW2019 | |

## 2.4 BOTTOM VIEW SECTION



## (1) BOTTOM VIEW SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | DVDM Assy | See Contrast table (2) |
| | 2 | JCKB Assy | See Contrast table (2) |
| NSP | 3 | MSWB Assy | See Contrast table (2) |
| ⚠ | 4 | POWER SUPPLY Assy | See Contrast table (2) |
| | 5 | SCRB Assy | See Contrast table (2) |
| | 6 | VQEB Assy | See Contrast table (2) |
| NSP | 7 | Loading Mechanism Assy | VWT1162 |
| | 8 | • • • • • | |
| | 9 | Flexible Cable (12P) (DVDM CN3 ↔ LOSB CN301) | VDA1692 |
| | 10 | Flexible Cable (26P) (DVDM CN2 ↔ POWER SUPPLY CN201) | VDA1689 |
| | 11 | Flexible Cable (29P) (DVDM CN905 ↔ JCKB CN666) | VDA1726 |
| | 12 | Flexible Cable (15P) (DVDM CN901 ↔ JCKB CN999) | VDA1727 |
| | 13 | Flexible Cable (12P) (SCRB CN1 ↔ JCKB CN777) | See Contrast table (2) |
| | 14 | Flexible Cable (07P) (SCRB CN2 ↔ DVDM CN904) | See Contrast table (2) |
| | 15 | • • • • • | |
| NSP | 16 | Base Chassis | See Contrast table (2) |
| | 17 | Rear Panel | See Contrast table (2) |
| | 18 | Insulator | PNW2766 |
| | 19 | Foot Assy (Rubber) | REC1263 |
| | 20 | SYPS FFC Binder | VEC2069 |
| | 21 | PCB Hinge | VEC1174 |
| NSP | 22 | PCB Holder | PNW2100 |
| | 23 | Screw | BBZ30P080FMC |
| NSP | 24 | PC Support | See Contrast table (2) |
| NSP | 25 | Label | VRW1629 |
| NSP | 26 | PCB Spacer | DEC1389 |
| NSP | 27 | PCB Holder | VNE2122 |
| NSP | 28 | Card Spacer | See Contrast table (2) |
| | 29 | PCB Spacer | VEC2077 |
| | 30 | PCB Support Cushion | VEC2079 |

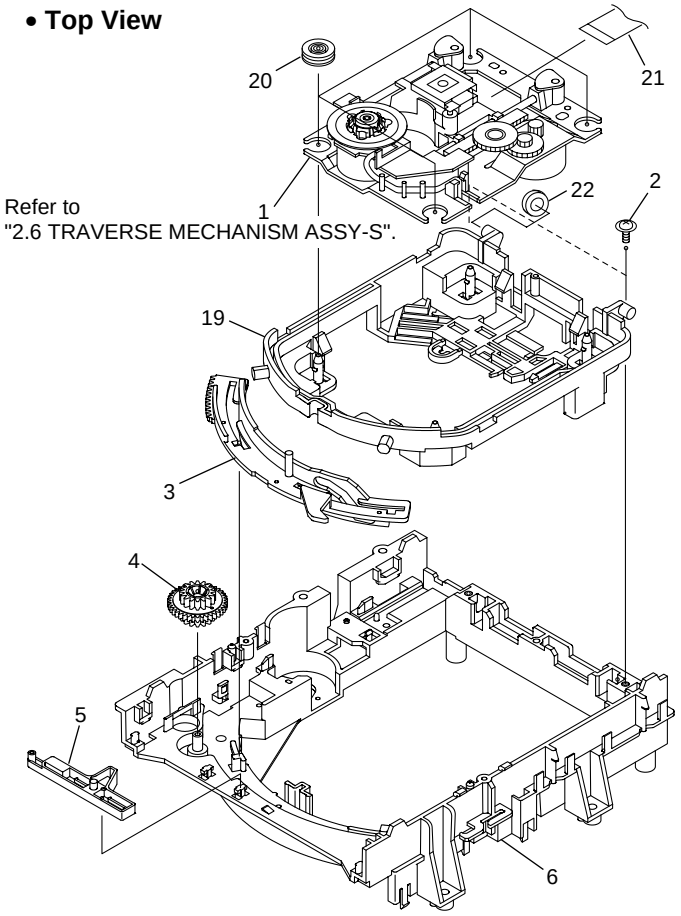
## (2) CONTRAST TABLE

DV-626D/KU, KC, WY and WV are constructed the same except for the following :

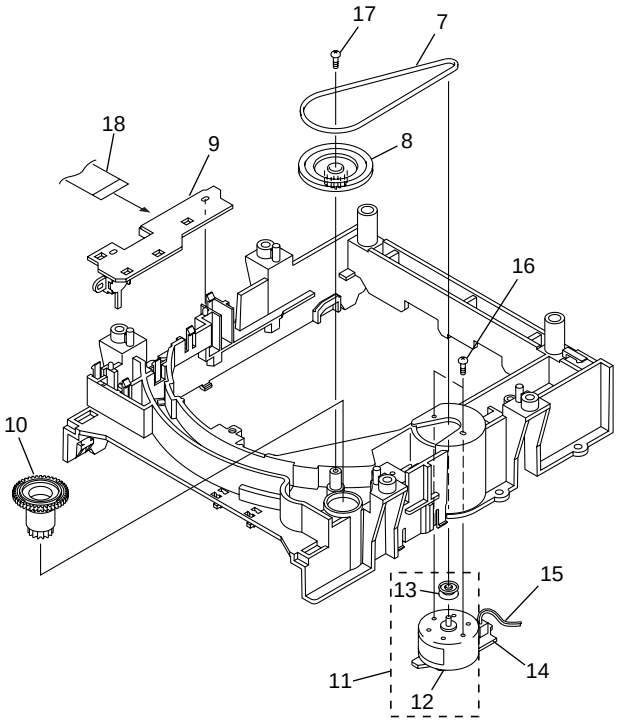
| Mark | No. | Symbol and Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | KU Type | KC Type | WY Type | WV Type | |
| | 1 | DVDM Assy | VWS1384 | VWS1384 | VWS1393 | VWS1393 | |
| | 2 | JCKB Assy | VWV1682 | VWV1682 | VWV1681 | VWV1681 | |
| NSP | 3 | MSWB Assy | Not used | Not used | VWG2073 | VWG2073 | |
| ⚠ | 4 | POWER SUPPLY Assy | VWR1316 | VWR1316 | VWR1314 | VWR1314 | |
| | 5 | SCRB Assy | Not used | Not used | VWV1721 | VWV1721 | |
| | 6 | VQEB Assy | VWV1669 | VWV1669 | VWV1711 | VWV1711 | |
| | 13 | Flexible Cable (12P) | Not used | Not used | VDA1692 | VDA1692 | |
| | 14 | Flexible Cable (07P) | Not used | Not used | VDA1739 | VDA1739 | |
| NSP | 16 | Base Chassis | VNA2064 | VNA2064 | VNA2091 | VNA2091 | |
| | 17 | Rear Panel | VNA2065 | VNA2065 | VNA2099 | VNA2099 | |
| NSP | 24 | PC Support | Not used | Not used | VEC1584 | VEC1584 | |
| NSP | 28 | Card Spacer | Not used | Not used | QEC1012 | QEC1012 | |

## 2.5 LOADING MECHANISM ASSY

• **Top View**




• **Bottom View**

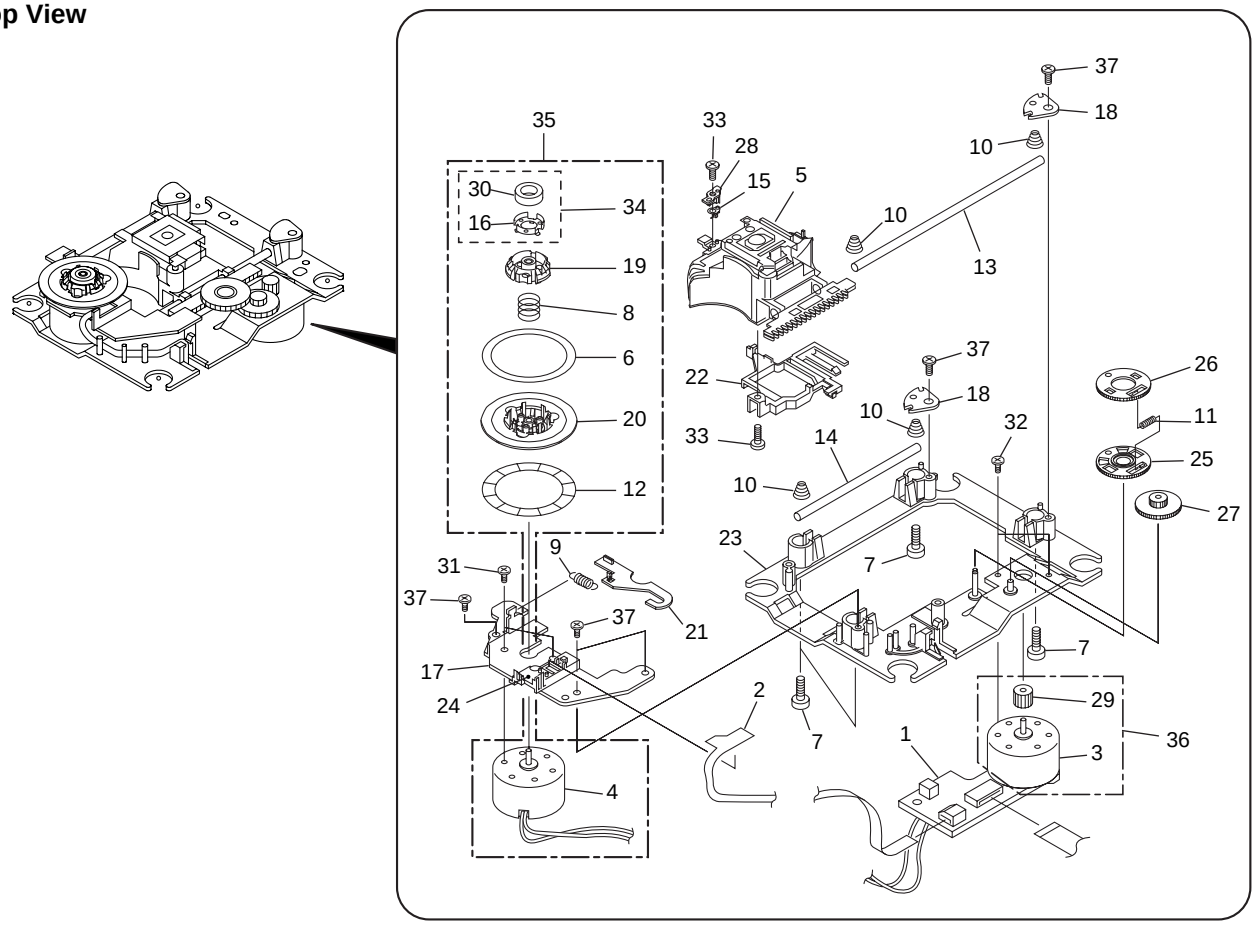



### ● LOADING MECHANISM ASSY PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Traverse Mechanism Assy-S | VXX2653 |
| | 2 | Screw | DBA1006 |
| | 3 | Drive Cam | VNL1736 |
| | 4 | Drive Gear | VNL1735 |
| | 5 | Lock Plate | VNL1820 |
| | 6 | Loading Base | VNL1844 |
| | 7 | Belt | VEB1260 |
| | 8 | Gear Pulley | VNL1733 |
| NSP | 9 | LOSB Assy | VWG1885 |
| | 10 | Loading Gear | VNL1734 |
| | 11 | Loading Motor Assy | VXX2505 |
| | 12 | DC Motor / 0.3W | PXM1027 |
| | 13 | Motor Pulley | PNW1634 |
| NSP | 14 | LOMB Assy | VWG1886 |
| | 15 | Connector Assy (LOMB CN401 ↔ LOSB CN303) | VKP2198 |
| | 16 | Screw | VBA1055 |
| | 17 | Screw | Z39-019 |
| | 18 | Flexible Cable (08P) (LOSB CN302 ↔ SMEB CN202) | VDA1698 |
| | 19 | Float Base | VNL1815 |
| | 20 | Floating Rubber | VEB1286 |
| | 21 | Flexible Cable (24P) (Pickup Assy ↔ DVDM CN4) | VDA1701 |
| | 22 | Cushion | VEB1312 |

## 2.6 TRAVERSE MECHANISM ASSY-S

• **Top View**



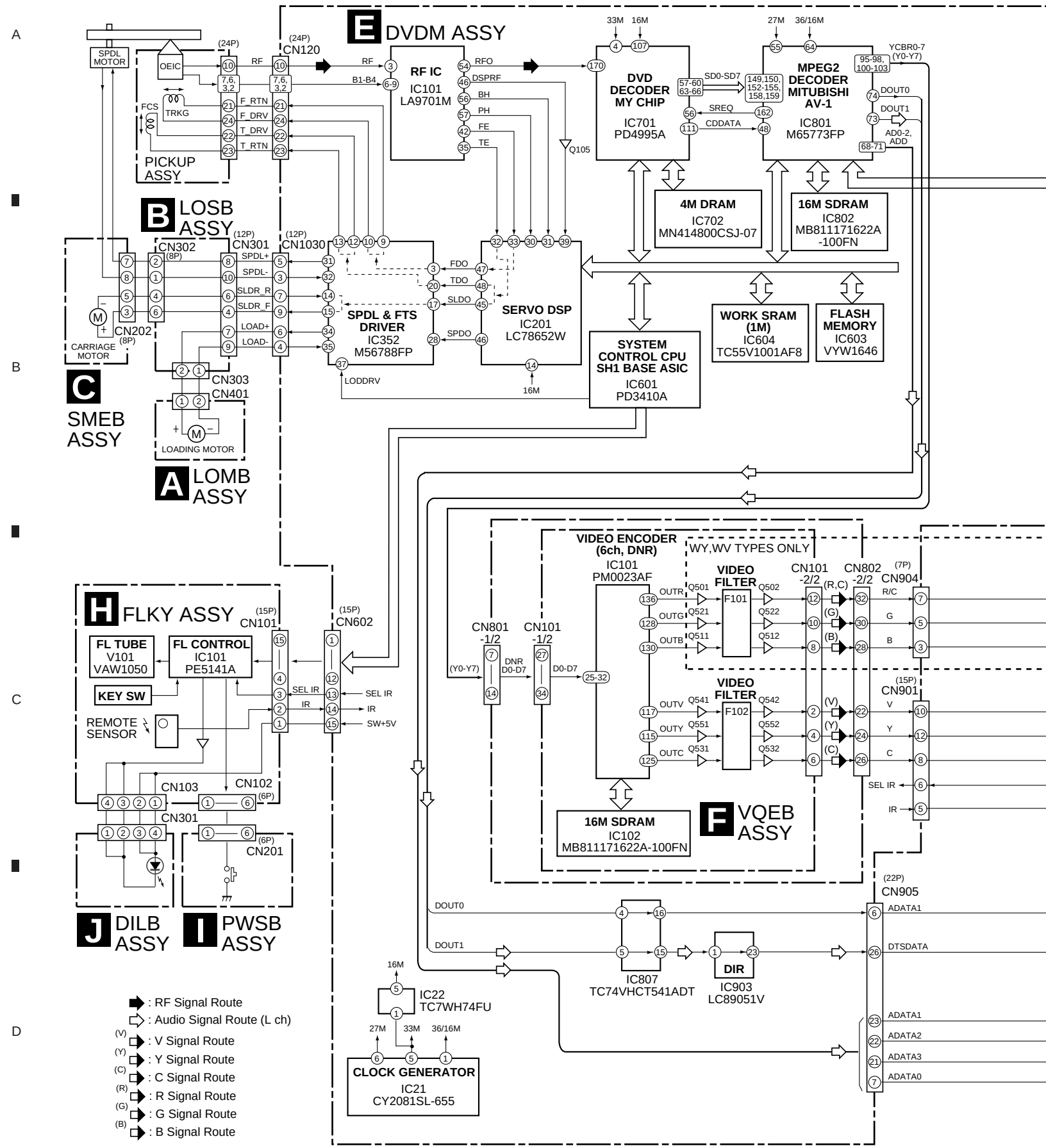

## ● TRAVERSE MECHANISM ASSY-S PARTS LIST

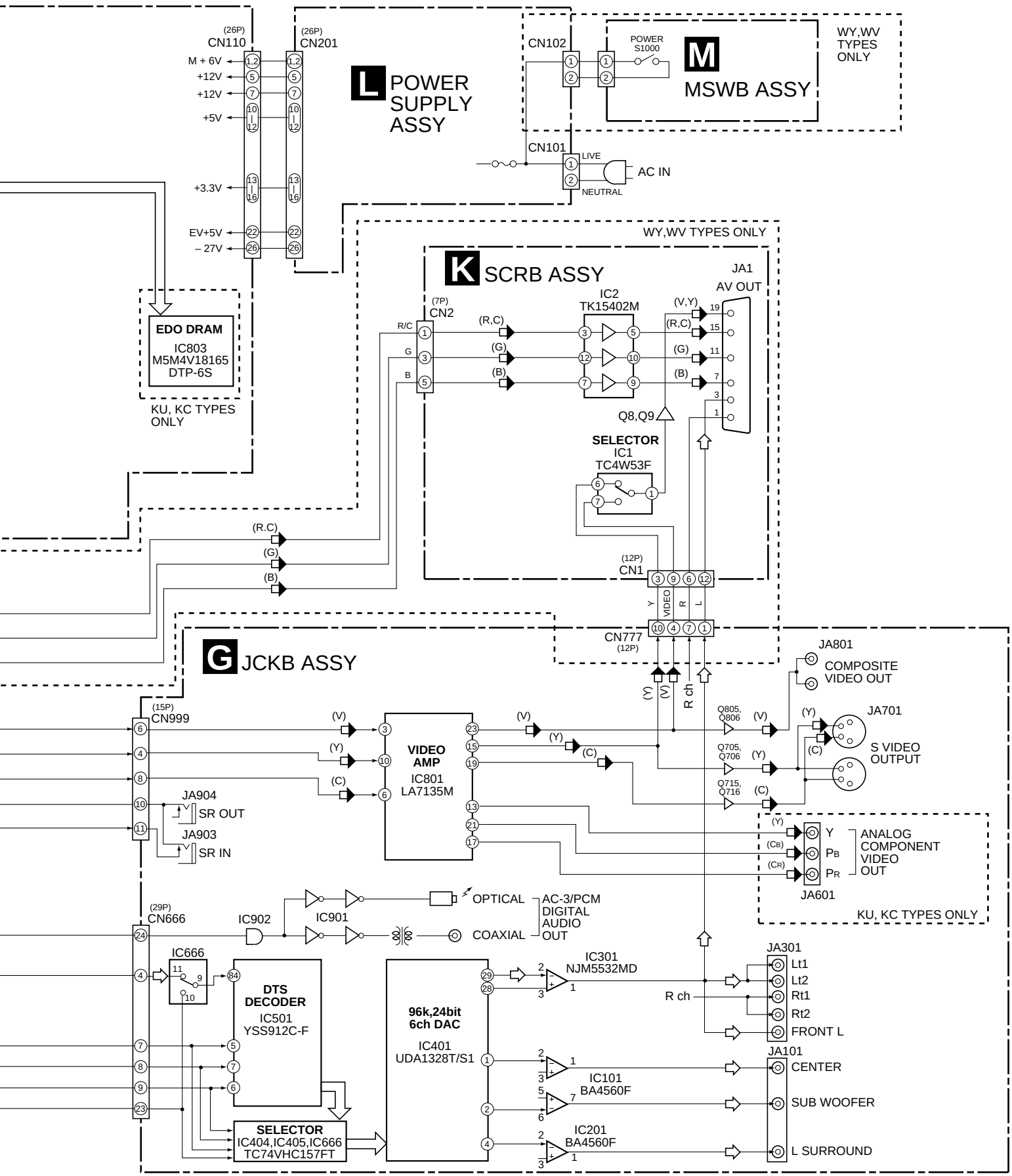
| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | SMEB Assy | VWG2048 |
| NSP | 2 | FGSB Assy | VWG2009 |
| | 3 | Motor | VXM1079 |
| | 4 | Motor | VXM1078 |
| ⚠ NSP | 5 | Pickup Assy | VWY1055 |
| | 6 | Table Sheet | DEC2040 |
| | 7 | Screw | VBA1058 |
| | 8 | Centering Spring | VBH1278 |
| | 9 | Hook Spring | VBH1317 |
| | 10 | Skew Spring | VBH1303 |
| | 11 | Gear Spring | VBH1308 |
| NSP | 12 | Reflected Sheet | VEC1959 |
| | 13 | Guide Bar | VLL1504 |
| | 14 | Sub-guide Bar | VLL1505 |
| | 15 | Hold Spring | VNC1017 |
| NSP | 16 | Magnet Holder | VNE2070 |
| NSP | 17 | Motor Base | VNE2154 |
| NSP | 18 | Cover | VNE2155 |
| | 19 | Centering Ring | VNL1746 |
| NSP | 20 | Disc Table | VNL1747 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 21 | Hook | VNL1770 |
| | 22 | FFC Holder | VNL1802 |
| | 23 | Mechanism Base | VNL1806 |
| | 24 | FG Holder | VNL1807 |
| | 25 | Gear A | VNL1808 |
| | 26 | Gear B | VNL1809 |
| | 27 | Gear C | VNL1810 |
| | 28 | Slider | VNL1811 |
| | 29 | Gear D | VNL1814 |
| NSP | 30 | Magnet | VYM1024 |
| | 31 | Screw | JFZ17P025FZK |
| | 32 | Screw | JGZ17P028FMC |
| | 33 | Screw | VBA1051 |
| | 34 | Magnet Holder Assy | VXX2507 |
| | 35 | Spindle Motor Assy | VXX2649 |
| | 36 | Carriage Motor Assy | VXX2650 |
| | 37 | Screw | PBA1069 |

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

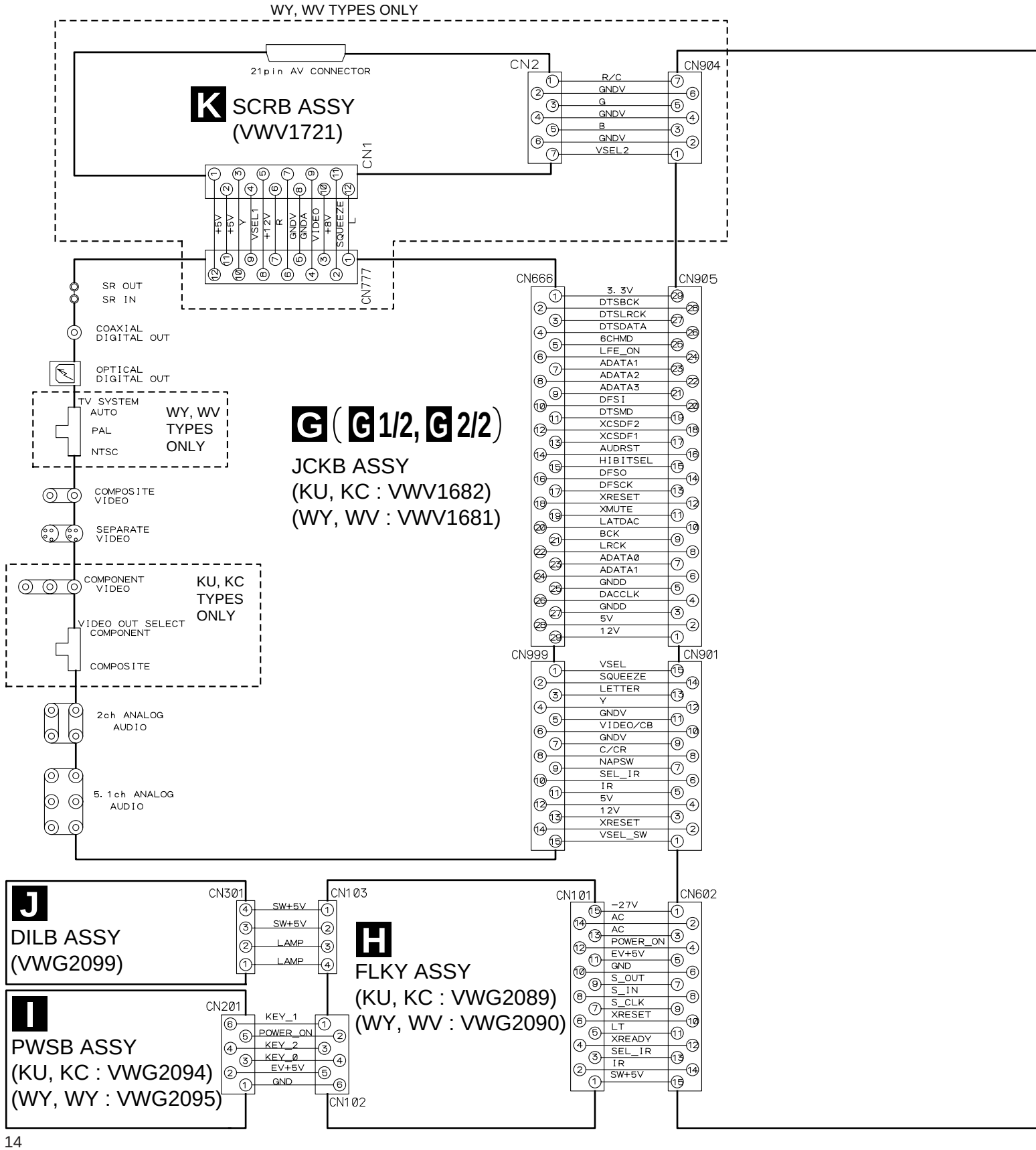
## 3.1 BLOCK DIAGRAM

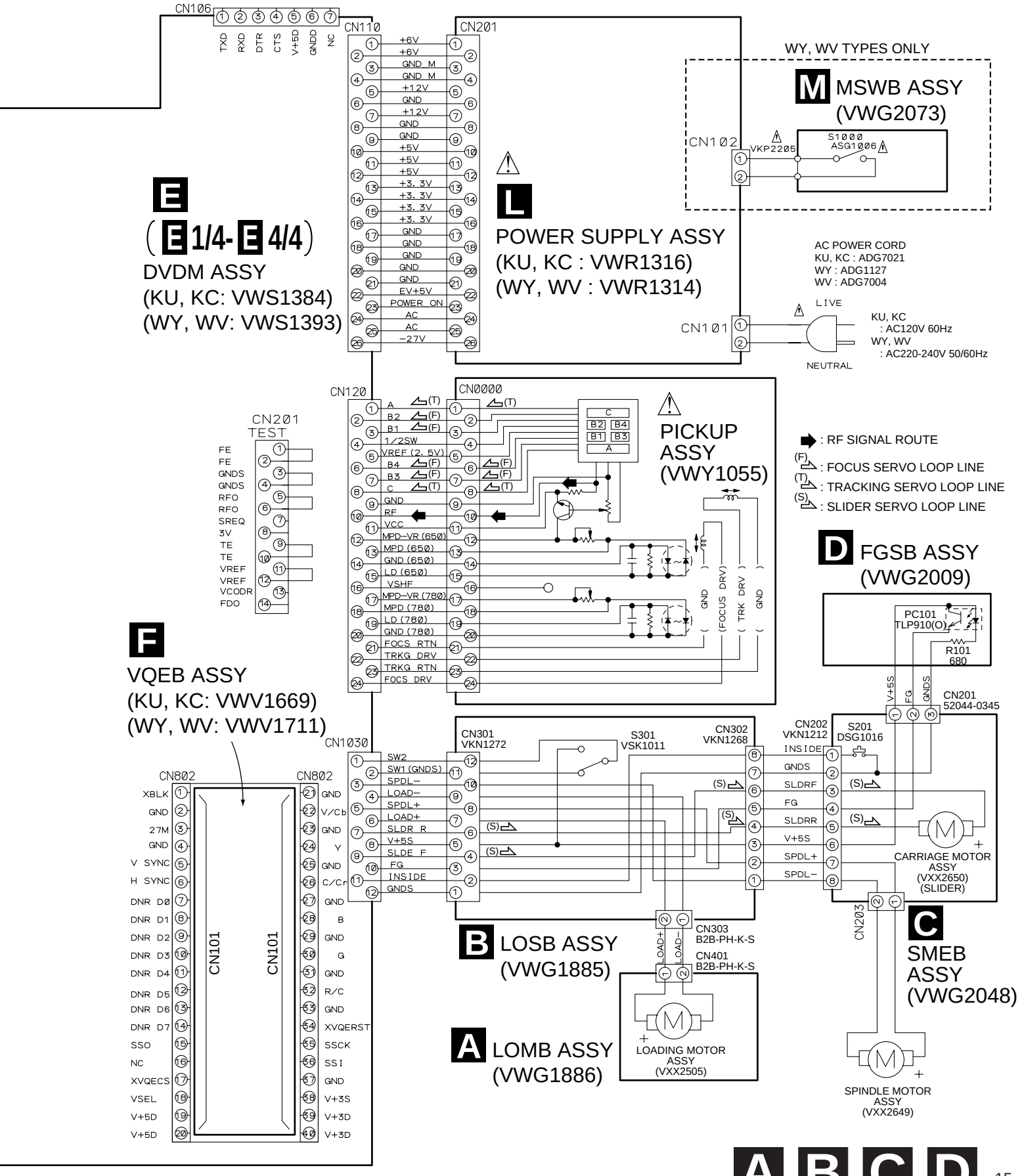



L POWER SUPPLY ASSY
(26P) CN110
(26P) CN201
M + 6V
+12V
+12V
+5V
+3.3V
EV+5V
– 27V
CN102
POWER S1000
M MSWB ASSY
WY,WV TYPES ONLY
CN101
LIVE
NEUTRAL
AC IN
EDO DRAM
IC803
M5M4V18165
DTP-6S
KU, KC TYPES ONLY
WY,WV TYPES ONLY
K SCRB ASSY
(7P) CN2
R/C
G
B
IC2
TK15402M
JA1
AV OUT
Q8,Q9
SELECTOR
IC1
TC4W53F
(12P) CN1
CN777 (12P)
Y
VIDEO
R
L
G JCKB ASSY
(15P) CN999
VIDEO AMP
IC801
LA7135M
JA904
SR OUT
JA903
SR IN
JA801
COMPOSITE VIDEO OUT
JA701
S VIDEO OUTPUT
Q805, Q806
Q705, Q706
Q715, Q716
ANALOG COMPONENT VIDEO OUT
JA601
KU, KC TYPES ONLY
(29P) CN666
IC902
IC901
OPTICAL
COAXIAL
AC-3/PCM DIGITAL AUDIO OUT
IC666
DTS DECODER
IC501
YSS912C-F
SELECTOR
IC404,IC405,IC666
TC74VHC157FT
96k,24bit 6ch DAC
IC401
UDA1328T/S1
IC301
NJM5532MD
IC101
BA4560F
IC201
BA4560F
JA301
Lt1
Lt2
Rt1
Rt2
FRONT L
JA101
CENTER
SUB WOOFER
L SURROUND
R ch

## 3.2 LOMB, LOSB, SMEB, FGSB ASSYS and OVERALL WIRING DIAGRAM

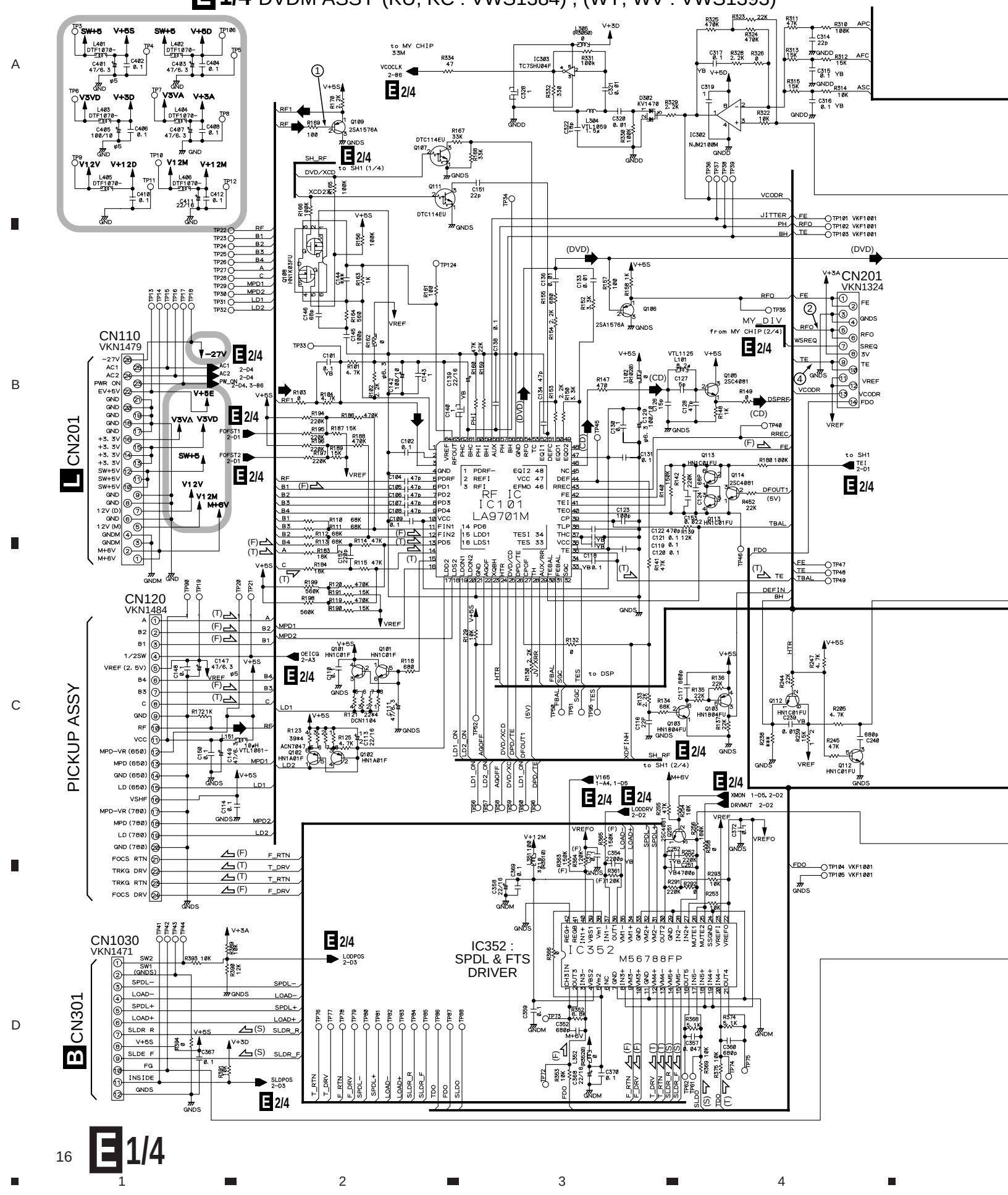
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".




CN106
TXD
RXD
DTR
CTS
V+5D
GNDD
NC
CN110
CN201
+6V
GND_M
+12V
GND
+5V
+3.3V
EV+5V
POWER ON
AC
−27V
WY, WV TYPES ONLY
M MSWB ASSY
(VWG2073)
CN102
VKP2205
S1000
ASG1006
E
(E1/4-E4/4)
DVDM ASSY
(KU, KC: VWS1384)
(WY, WV: VWS1393)
L
POWER SUPPLY ASSY
(KU, KC : VWR1316)
(WY, WV : VWR1314)
AC POWER CORD
KU, KC : ADG7021
WY : ADG1127
WV : ADG7004
CN101
LIVE
NEUTRAL
KU, KC
: AC120V 60Hz
WY, WV
: AC220-240V 50/60Hz
CN120
CN0000
CN201
TEST
FE
GNDS
RFO
SREQ
3V
TE
VREF
VCODR
FDO
PICKUP
ASSY
(VWY1055)
A
B2
B1
1/2SW
VREF (2.5V)
B4
B3
C
RF
VCC
MPD-VR (650)
MPD (650)
GND (650)
LD (650)
VSHF
MPD-VR (780)
MPD (780)
LD (780)
GND (780)
FOCS RTN
TRKG DRV
TRKG RTN
FOCS DRV
: RF SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SLIDER SERVO LOOP LINE
D FGSB ASSY
(VWG2009)
PC101
TLP910(O)
R101
680
V+5S
FG
GNDS
CN201
52044-0345
F
VQEB ASSY
(KU, KC: VWV1669)
(WY, WV: VWV1711)
CN1030
CN301
VKN1272
S301
VSK1011
CN302
VKN1268
CN202
VKN1212
S201
DSG1016
INSIDE
SW2
SW1 (GNDS)
SPDL−
LOAD−
SPDL+
LOAD+
SLDR R
V+5S
SLDE F
FG
GNDS
SLDRF
SLDRR
CARRIAGE MOTOR
ASSY
(VXX2650)
(SLIDER)
CN802
CN101
XBLK
GND
27M
V SYNC
H SYNC
DNR D0
DNR D1
DNR D2
DNR D3
DNR D4
DNR D5
DNR D6
DNR D7
SSO
NC
XVQECS
VSEL
V+5D
V/Cb
Y
C/Cr
B
G
R/C
XVQERST
SSCK
SSI
V+3S
V+3D
B LOSB ASSY
(VWG1885)
CN303
B2B-PH-K-S
CN401
B2B-PH-K-S
LOAD+
LOAD−
A LOMB ASSY
(VWG1886)
LOADING MOTOR
ASSY
(VXX2505)
CN203
C
SMEB
ASSY
(VWG2048)
SPINDLE MOTOR
ASSY
(VXX2649)

# 3.3 DVDM ASSY (1/4)

## E 1/4 DVDM ASSY (KU, KC : VWS1384) , (WY, WV : VWS1393)

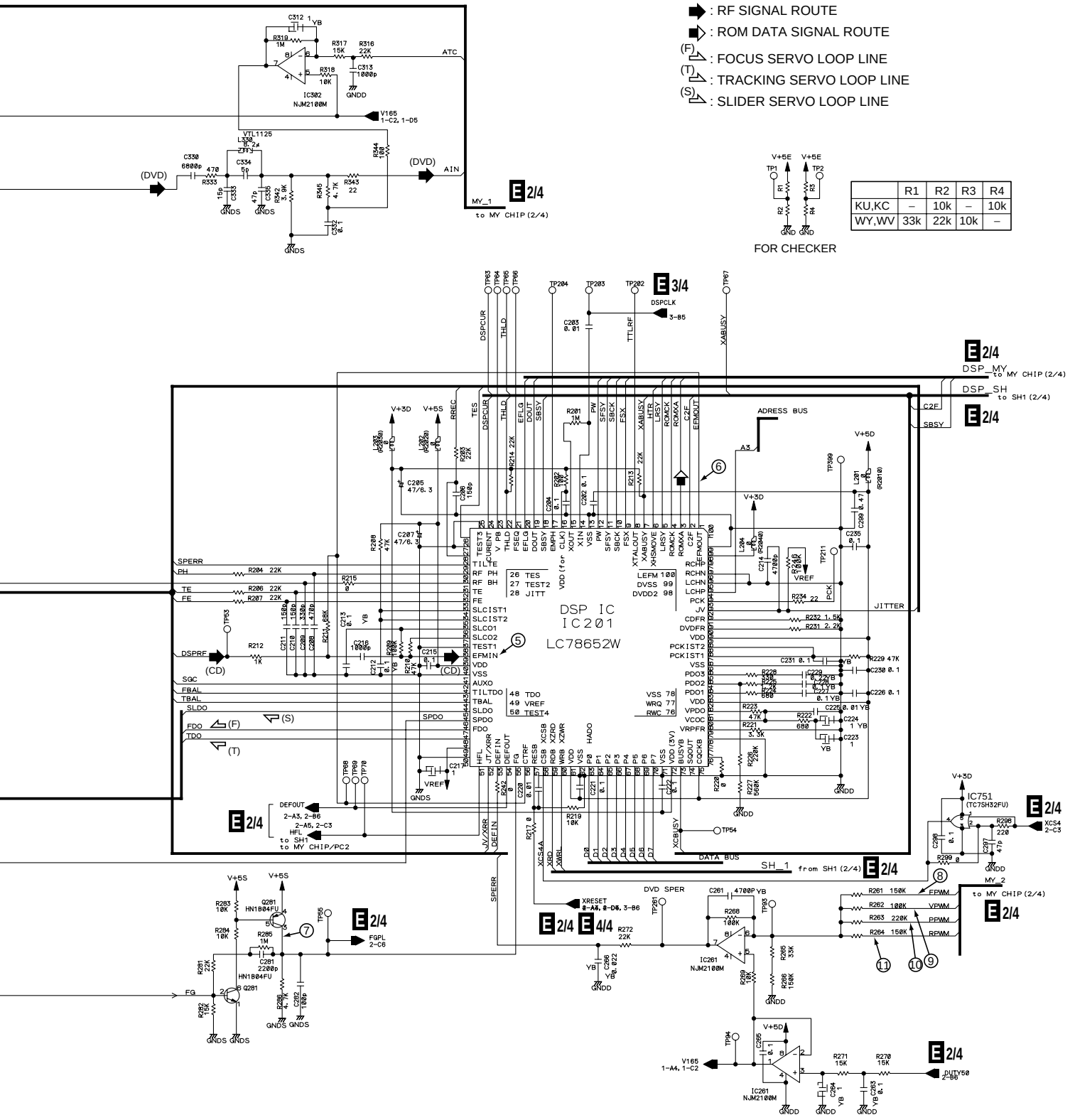


: The power supply is shown with the marked box.

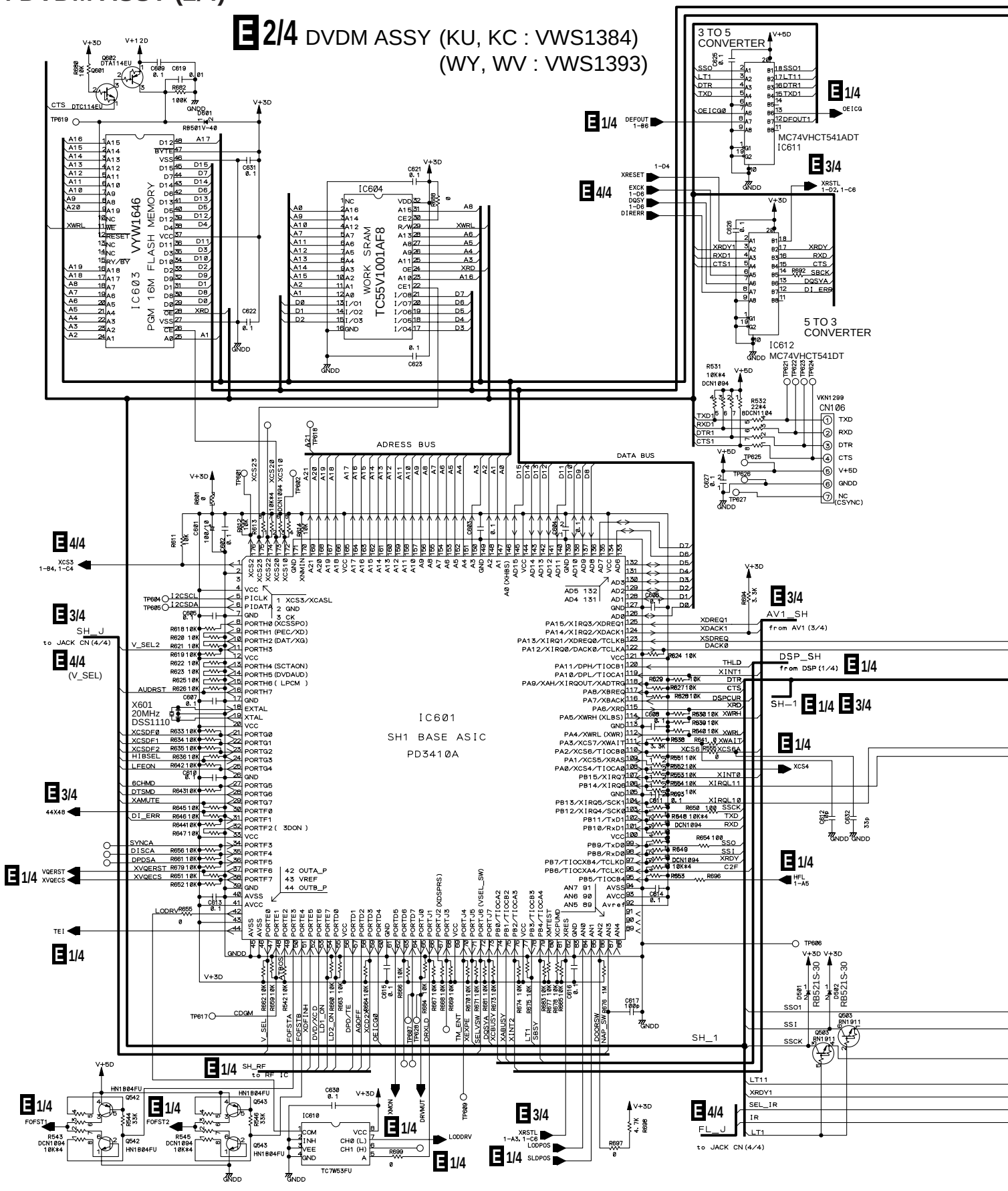
: RF SIGNAL ROUTE
: ROM DATA SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SLIDER SERVO LOOP LINE

FOR CHECKER

| | R1 | R2 | R3 | R4 |
|---|---|---|---|---|
| KU,KC | – | 10k | – | 10k |
| WY,WV | 33k | 22k | 10k | – |



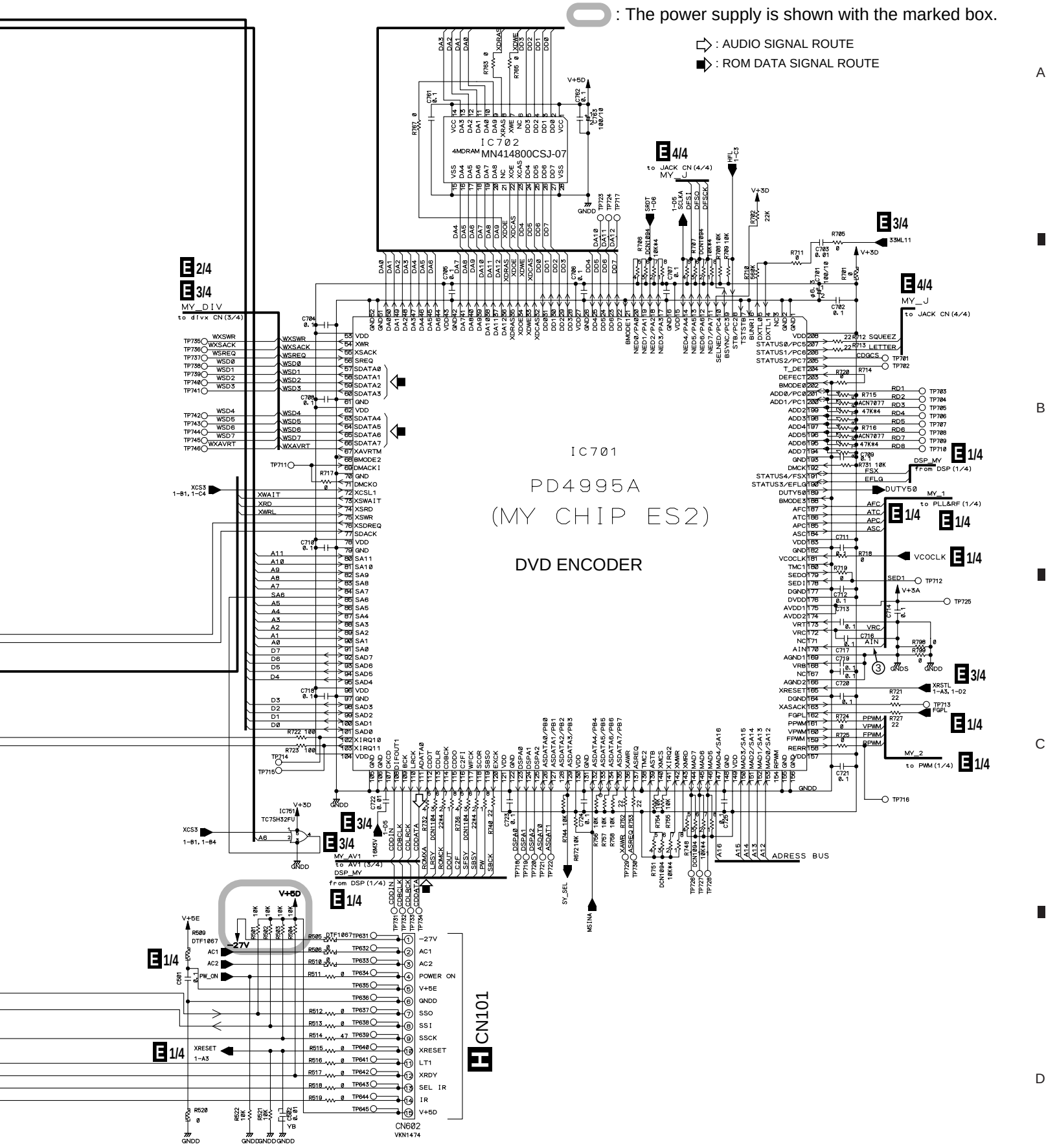
## 3.4 DVDM ASSY (2/4)



: The power supply is shown with the marked box.

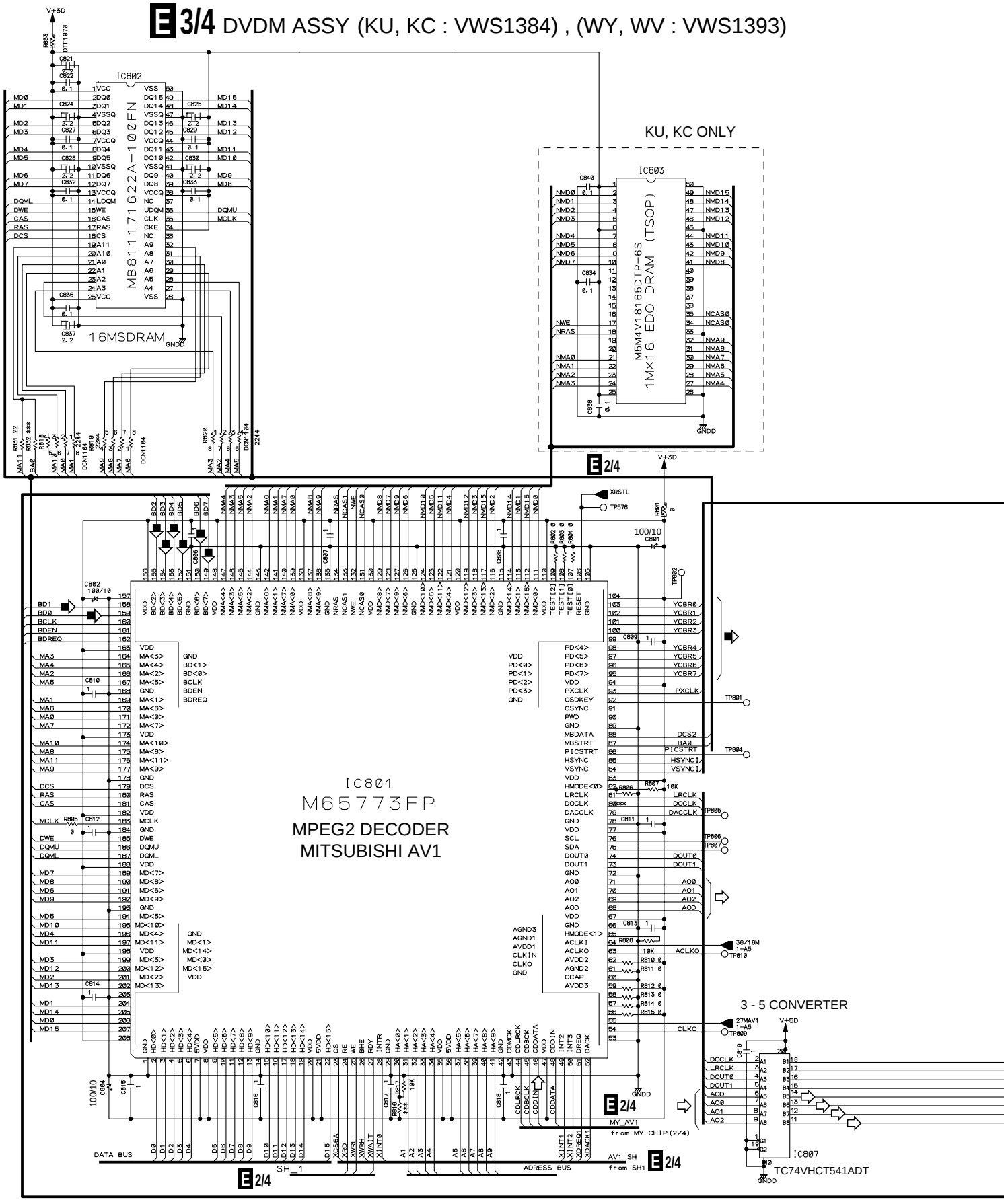
: AUDIO SIGNAL ROUTE

: ROM DATA SIGNAL ROUTE

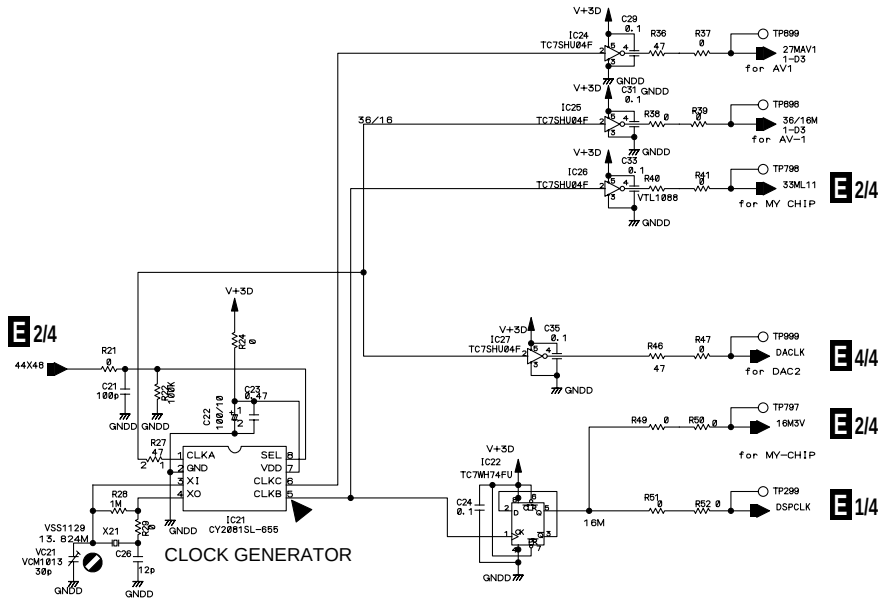


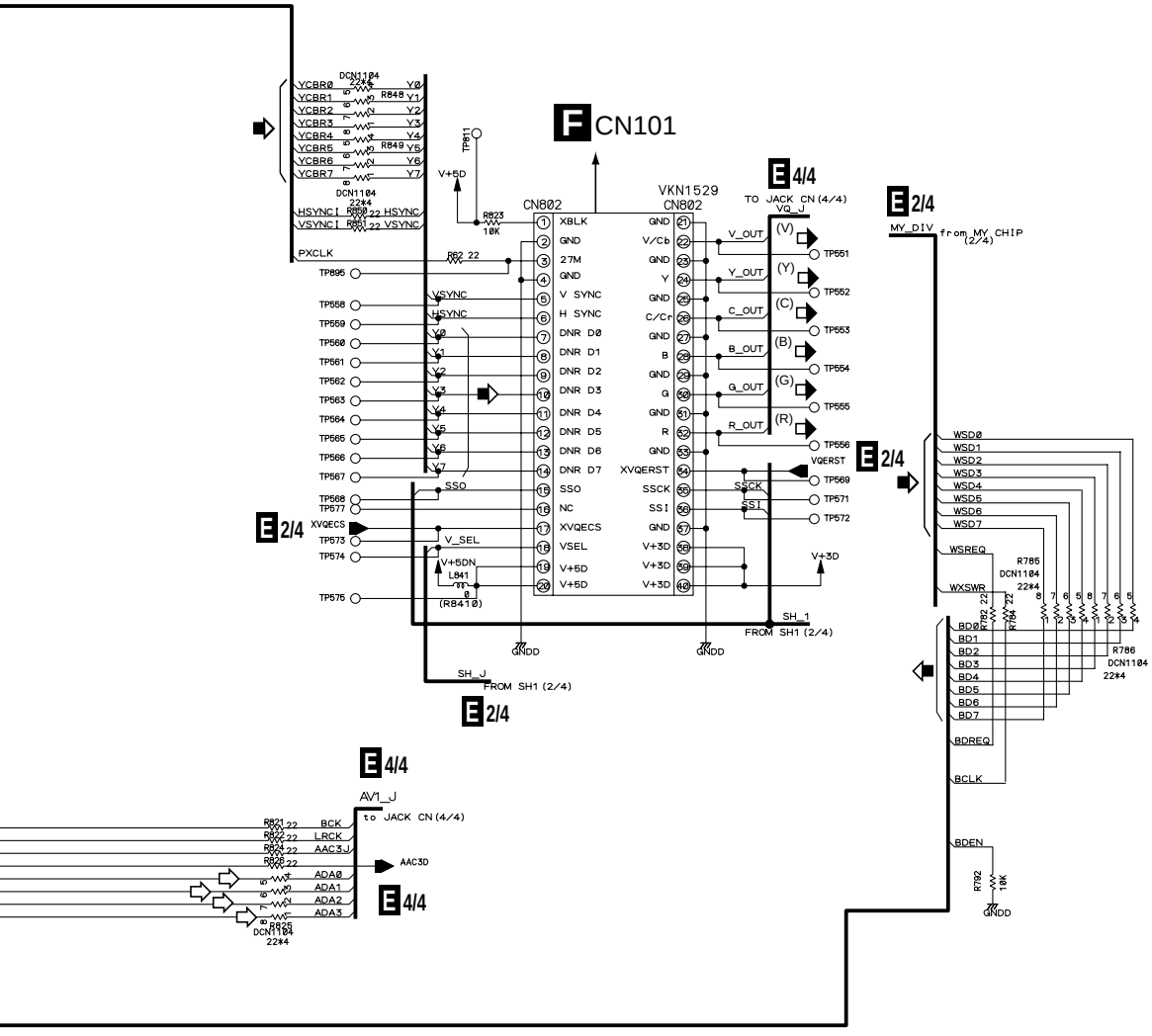
## 3.5 DVDM ASSY (3/4)

**E 3/4** DVDM ASSY (KU, KC : VWS1384) , (WY, WV : VWS1393)



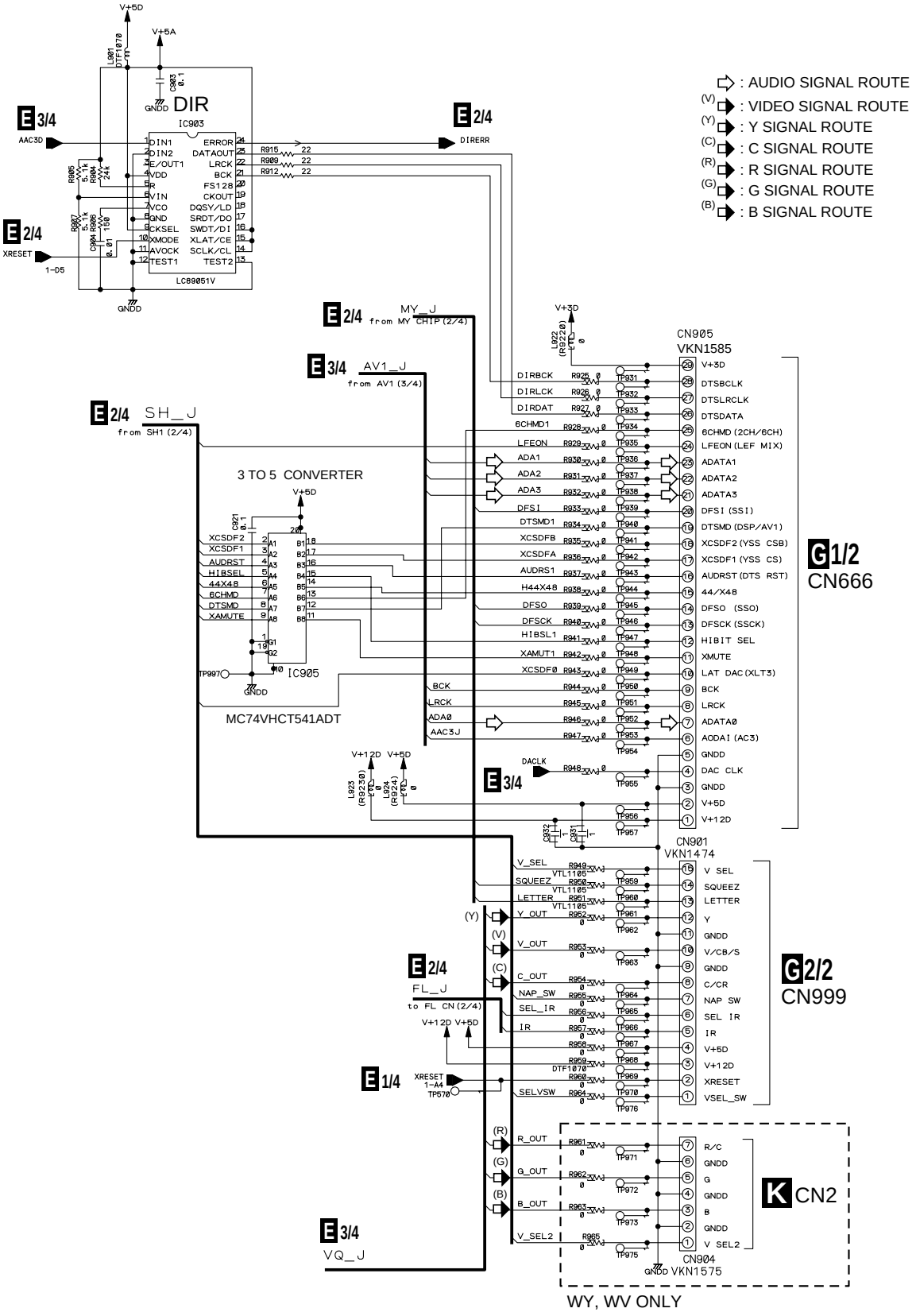
: AUDIO SIGNAL ROUTE
: ROM DATA SIGNAL ROUTE
(V) : VIDEO SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(R) : R SIGNAL ROUTE
(G) : G SIGNAL ROUTE
(B) : B SIGNAL ROUTE



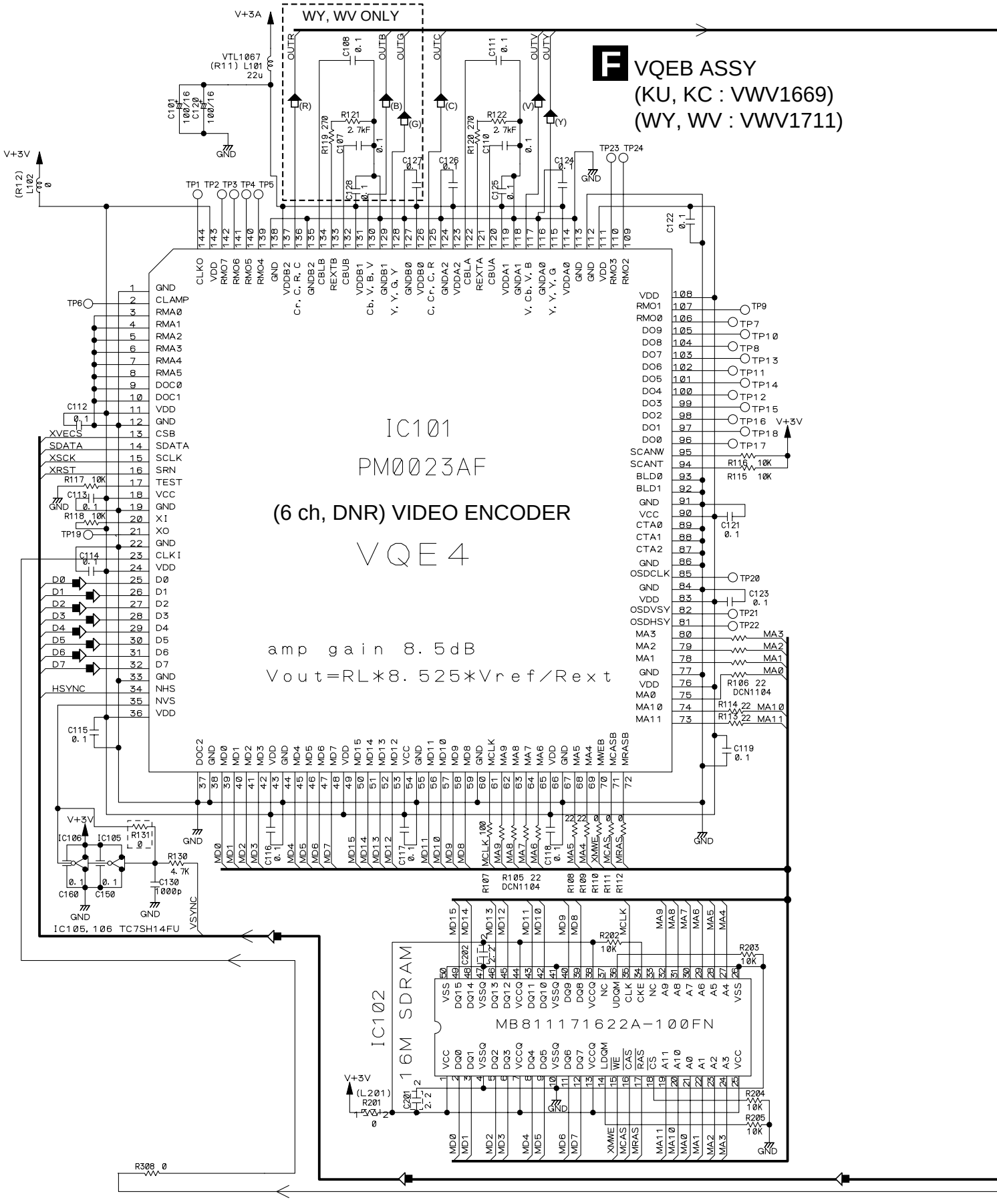



## 3.6 DVDM ASSY (4/4)

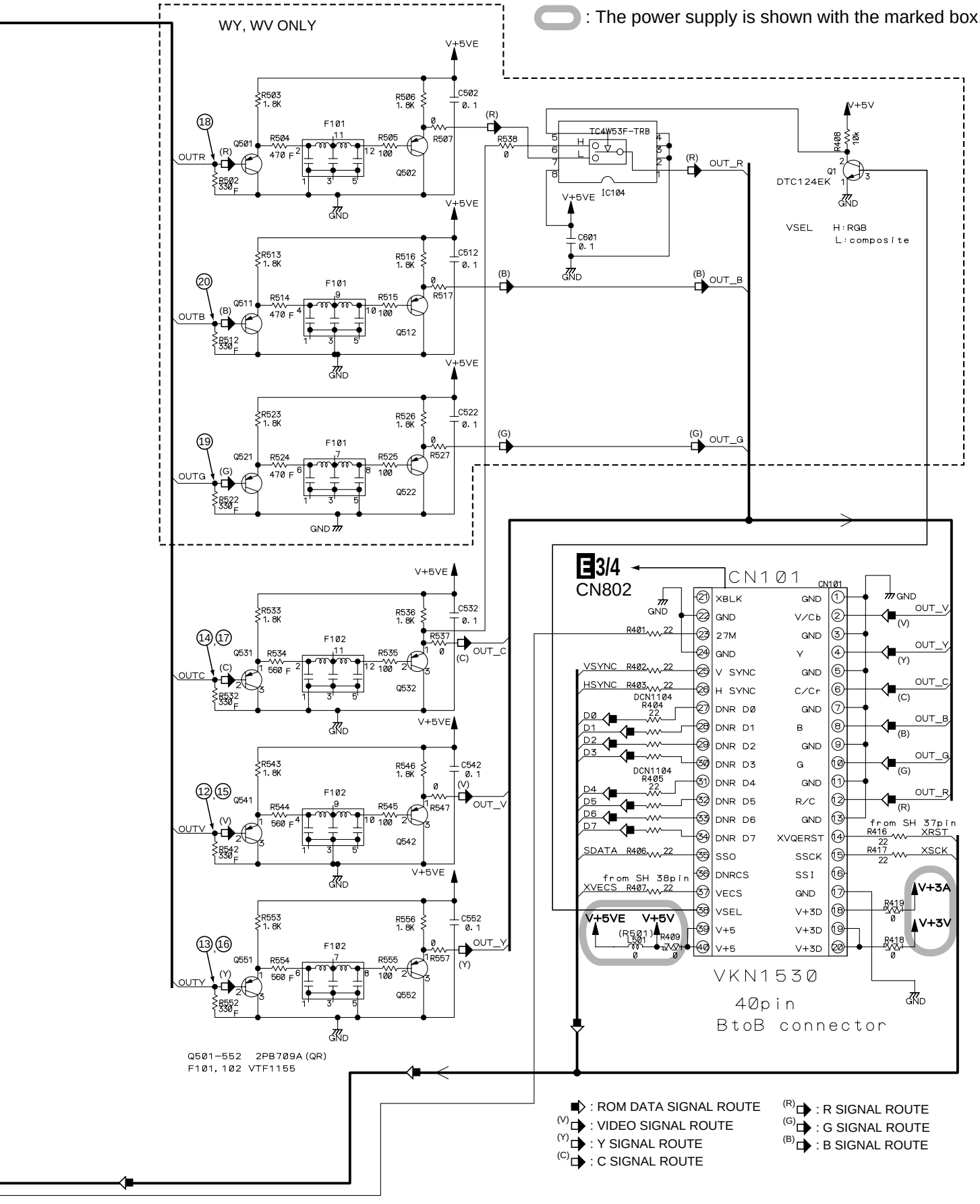
### E 4/4 DVDM ASSY (KU, KC : VWS1384) , (WY, WV : VWS1393)



## 3.7 VQEB ASSY

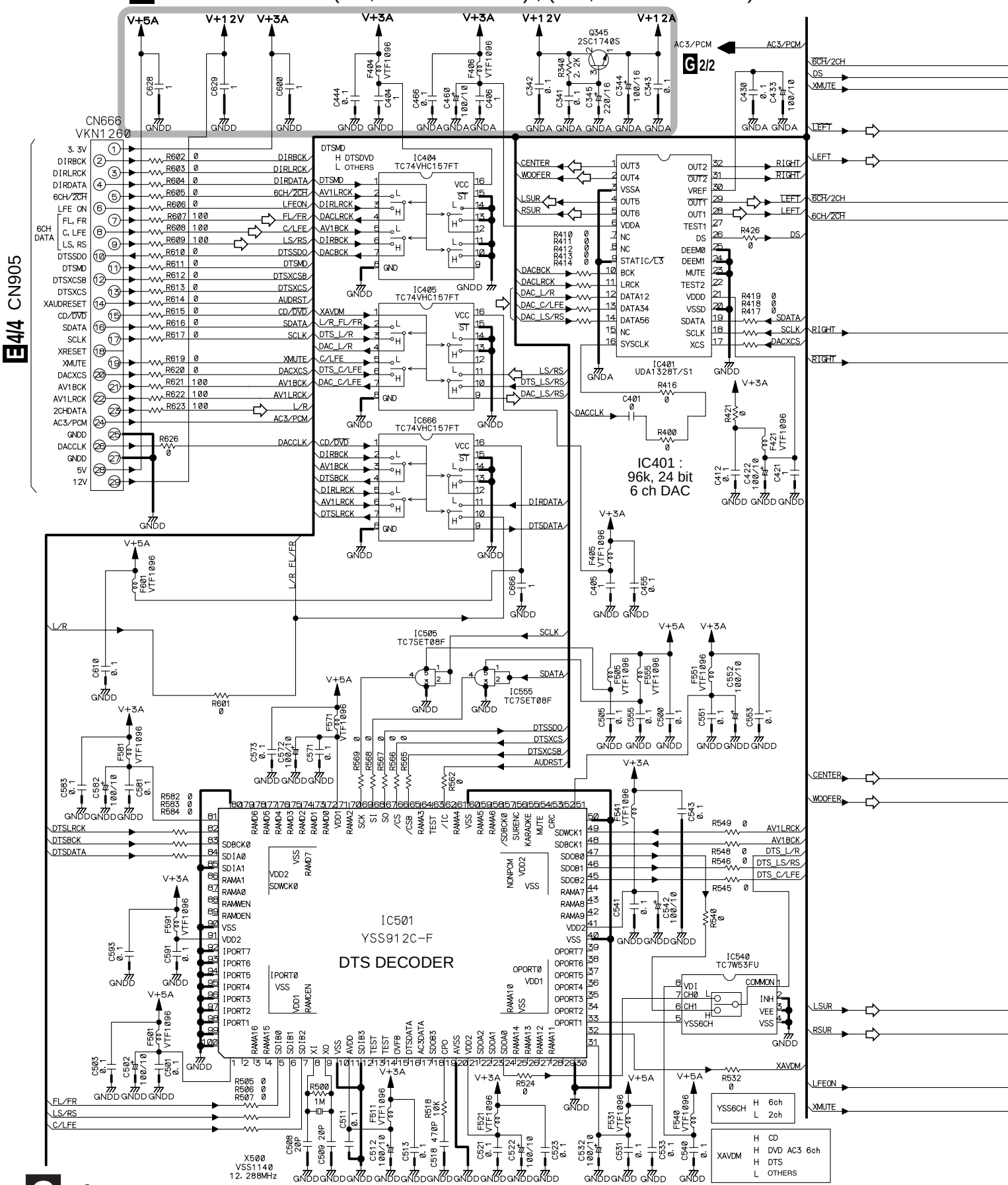

WY, WV ONLY
F VQEB ASSY
(KU, KC : VWV1669)
(WY, WV : VWV1711)
IC101
PM0023AF
(6 ch, DNR) VIDEO ENCODER
VQE4
amp gain 8.5dB
Vout=RL*8.525*Vref/Rext
IC102
16M SDRAM
MB811171622A-100FN
IC105,106 TC7SH14FU

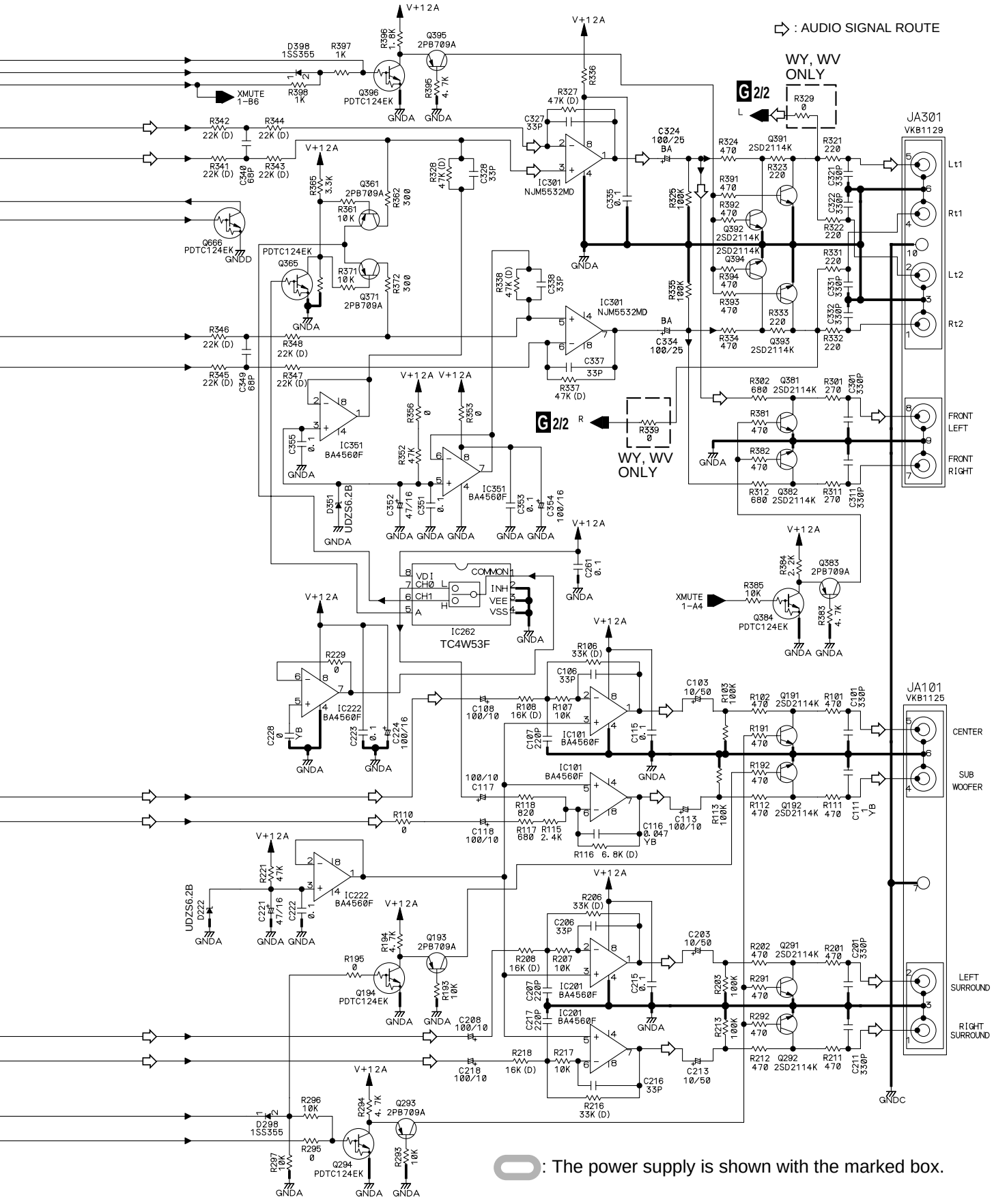
: The power supply is shown with the marked box.



## 3.8 JCKB ASSY (1/2)

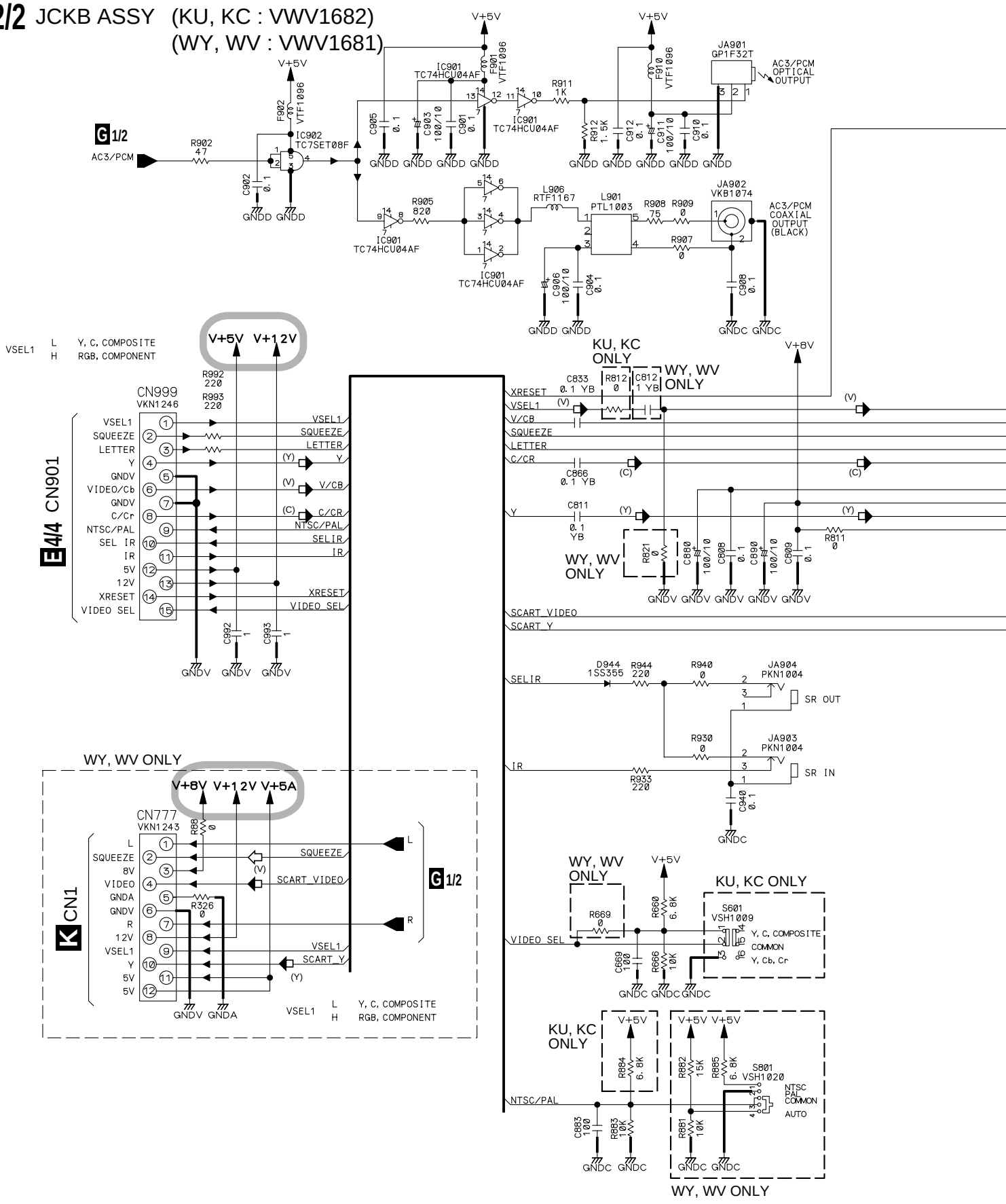
### G 1/2 JCKB ASSY (KU, KC : VWV1682) , (WY, WV : VWV1681)




: AUDIO SIGNAL ROUTE
WY, WV ONLY
WY, WV ONLY
JA301 VKB1129
JA101 VKB1125
Lt1
Rt1
Lt2
Rt2
FRONT LEFT
FRONT RIGHT
CENTER
SUB WOOFER
LEFT SURROUND
RIGHT SURROUND
IC301 NJM5532MD
IC351 BA4560F
IC222 BA4560F
IC101 BA4560F
IC201 BA4560F
IC262 TC4W53F
Q666 PDTC124EK
Q365 PDTC124EK
Q396 PDTC124EK
Q384 PDTC124EK
Q194 PDTC124EK
Q294 PDTC124EK
Q361 2PB709A
Q371 2PB709A
Q395 2PB709A
Q383 2PB709A
Q193 2PB709A
Q293 2PB709A
Q391 2SD2114K
Q392 2SD2114K
Q394 2SD2114K
Q393 2SD2114K
Q381 2SD2114K
Q382 2SD2114K
Q191 2SD2114K
Q192 2SD2114K
Q291 2SD2114K
Q292 2SD2114K
D398 1SS355
D298 1SS355
D351 UDZS6.2B
D222 UDZS6.2B
XMUTE 1-B6
XMUTE 1-A4
V+12A
GNDA
GNDD
GNDC
: The power supply is shown with the marked box.

## 3.9 JCKB ASSY (2/2)

**G 2/2** JCKB ASSY (KU, KC : VWV1682)
(WY, WV : VWV1681)



: The power supply is shown with the marked box.

: AUDIO SIGNAL ROUTE
(V) : VIDEO SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE

| | GND | OPEN | 5V | 8V |
|---|---|---|---|---|
| MUTE | 13, 17, 21 MUTE | NO MUTE | 15, 19, 23 MUTE | —— |
| TYPE SEL | Y, C, COMPOSITE | —— | COMPONENT | —— |
| AMP SEL | 0dB | 6dB | —— | 8.5dB |

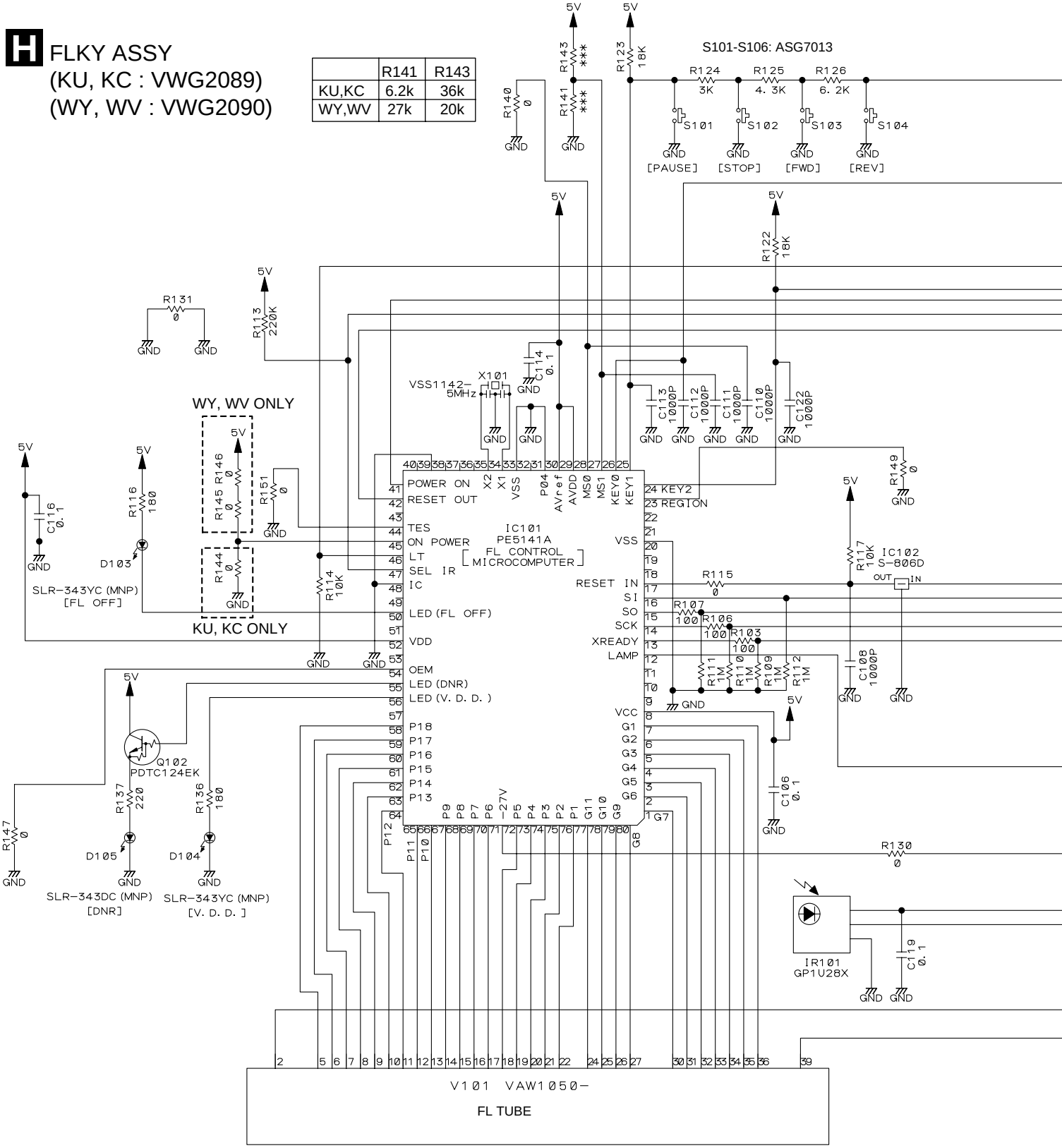
<VIDEO SEL>

| | |
|---|---|
| Y, Cb, Cr | 0V |
| Y, C, COMPOSITE | 3V |

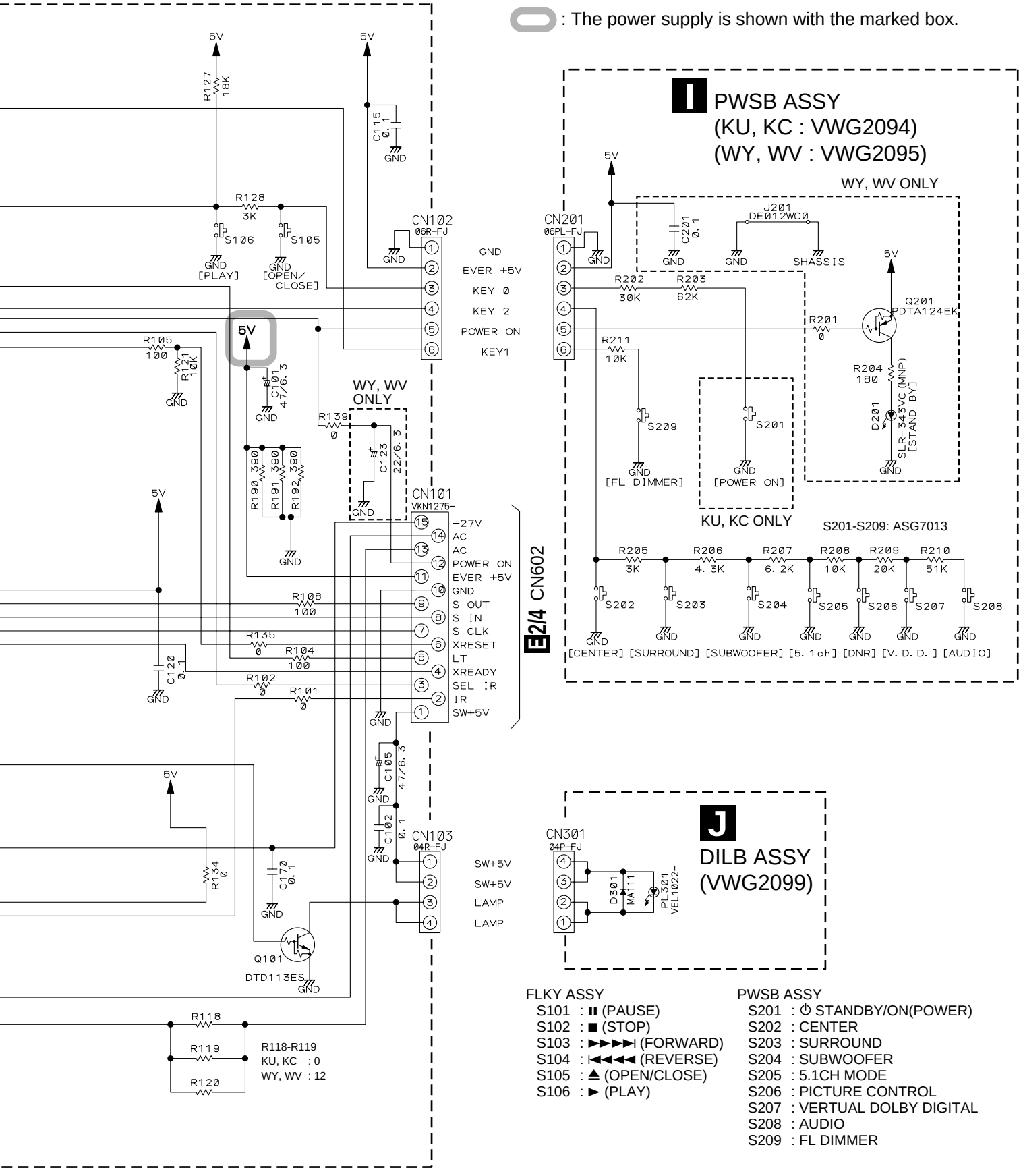
<NTSC/PAL>

| | |
|---|---|
| PAL | 0V |
| AUTO | 1.25V |
| NTSC | 3V |

## 3.10 FLKB, PWSB and DILB ASSYS



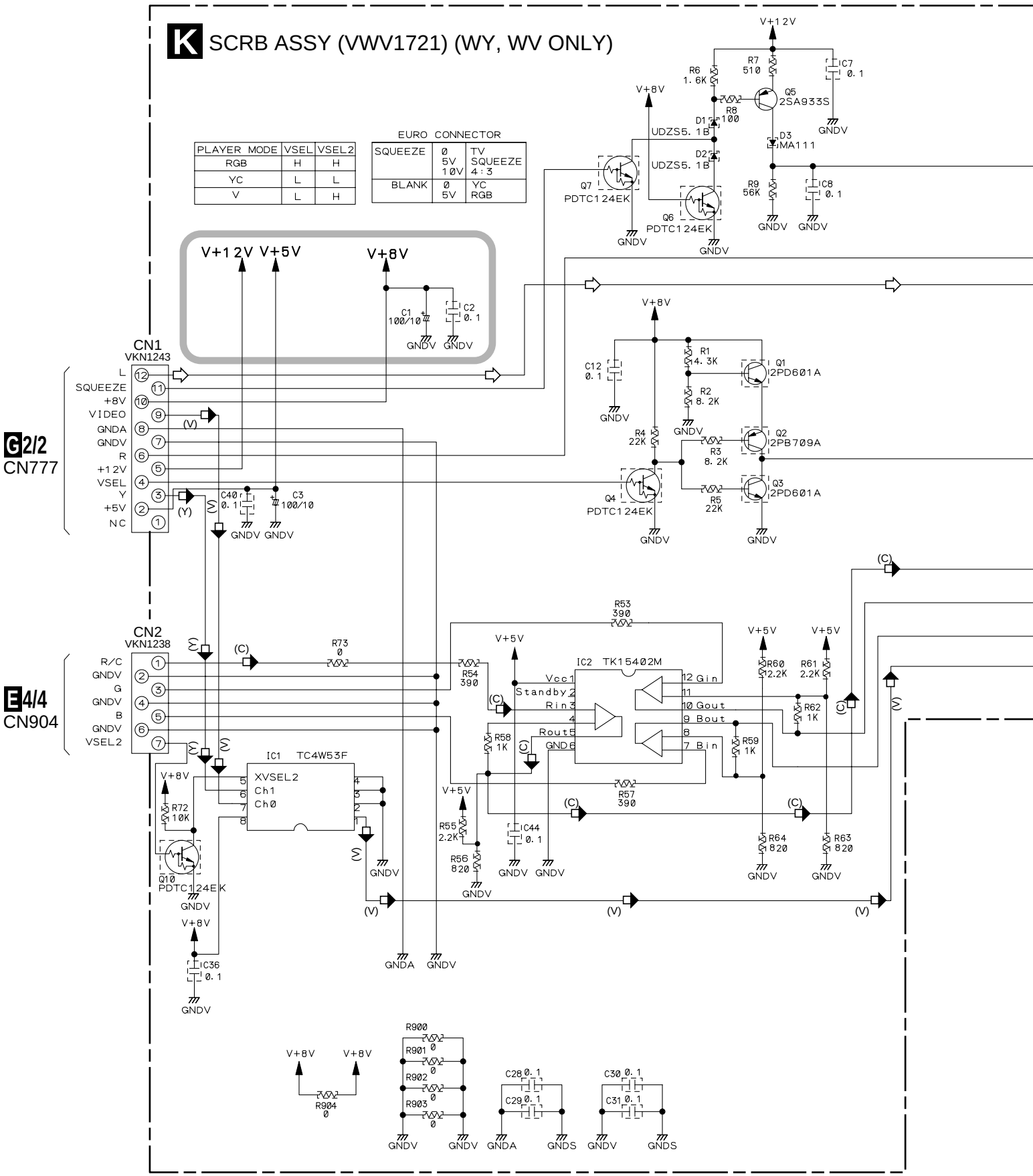
: The power supply is shown with the marked box.




FLKY ASSY
- S101 : ⏸ (PAUSE)
- S102 : ■ (STOP)
- S103 : ▶▶▶▶I (FORWARD)
- S104 : I◀◀◀◀ (REVERSE)
- S105 : ⏏ (OPEN/CLOSE)
- S106 : ▶ (PLAY)

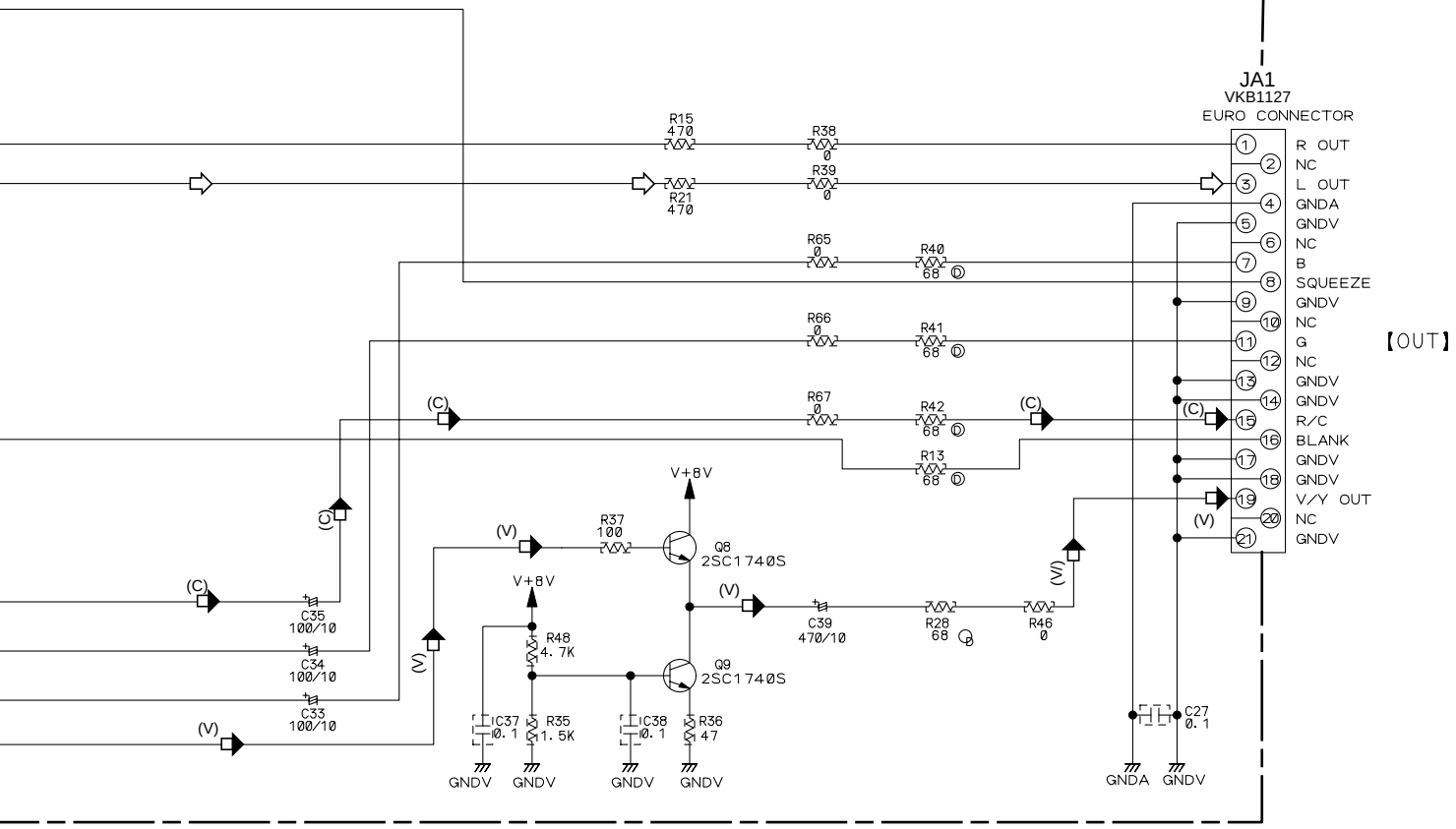
PWSB ASSY
- S201 : ⏻ STANDBY/ON(POWER)
- S202 : CENTER
- S203 : SURROUND
- S204 : SUBWOOFER
- S205 : 5.1CH MODE
- S206 : PICTURE CONTROL
- S207 : VERTUAL DOLBY DIGITAL
- S208 : AUDIO
- S209 : FL DIMMER

## 3.11 SCRB ASSY



: The power supply is shown with the marked box.

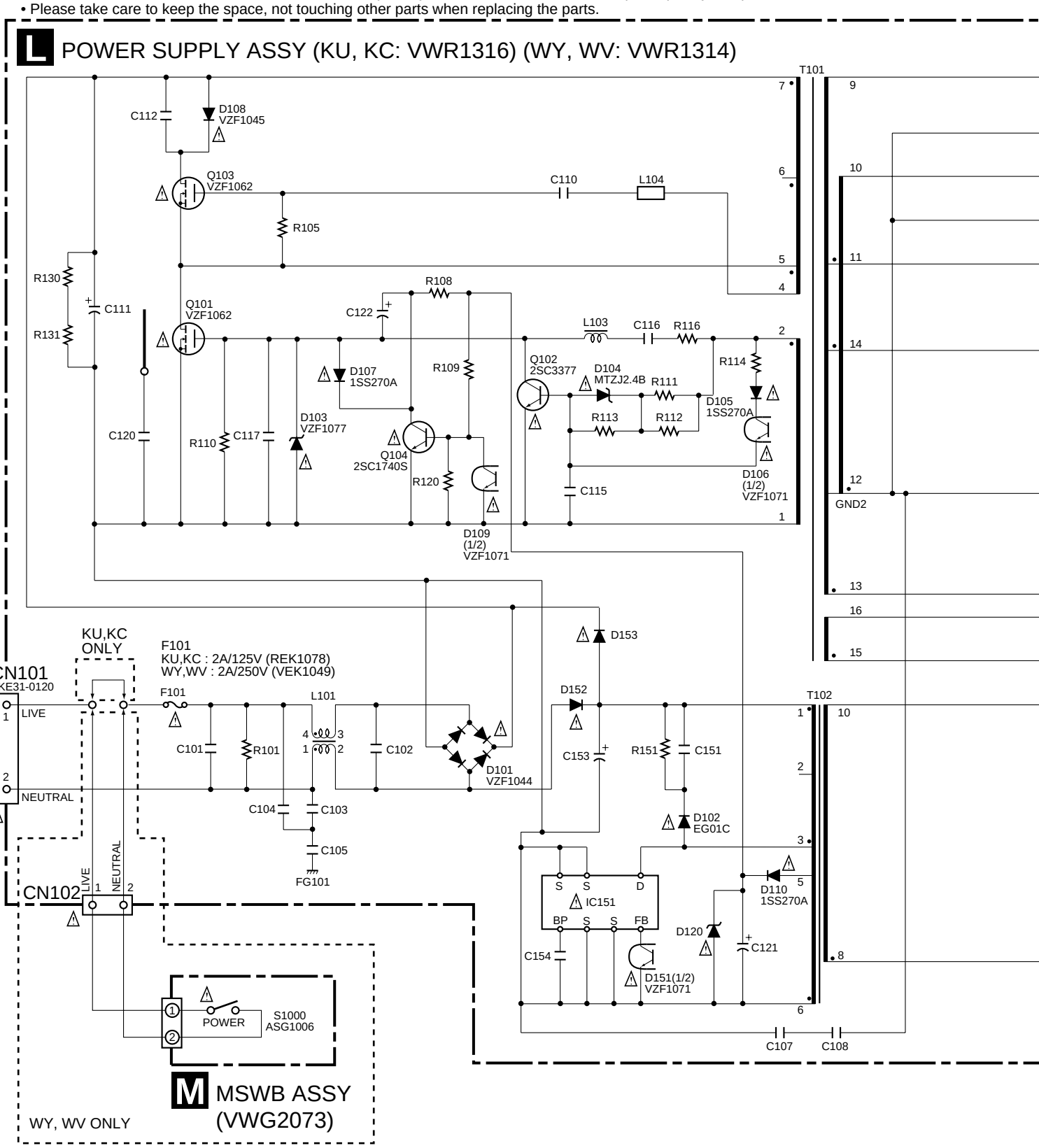
: AUDIO SIGNAL ROUTE
(V) : V/CB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE



# 3.12 POWER SUPPLY and MSWB ASSYS

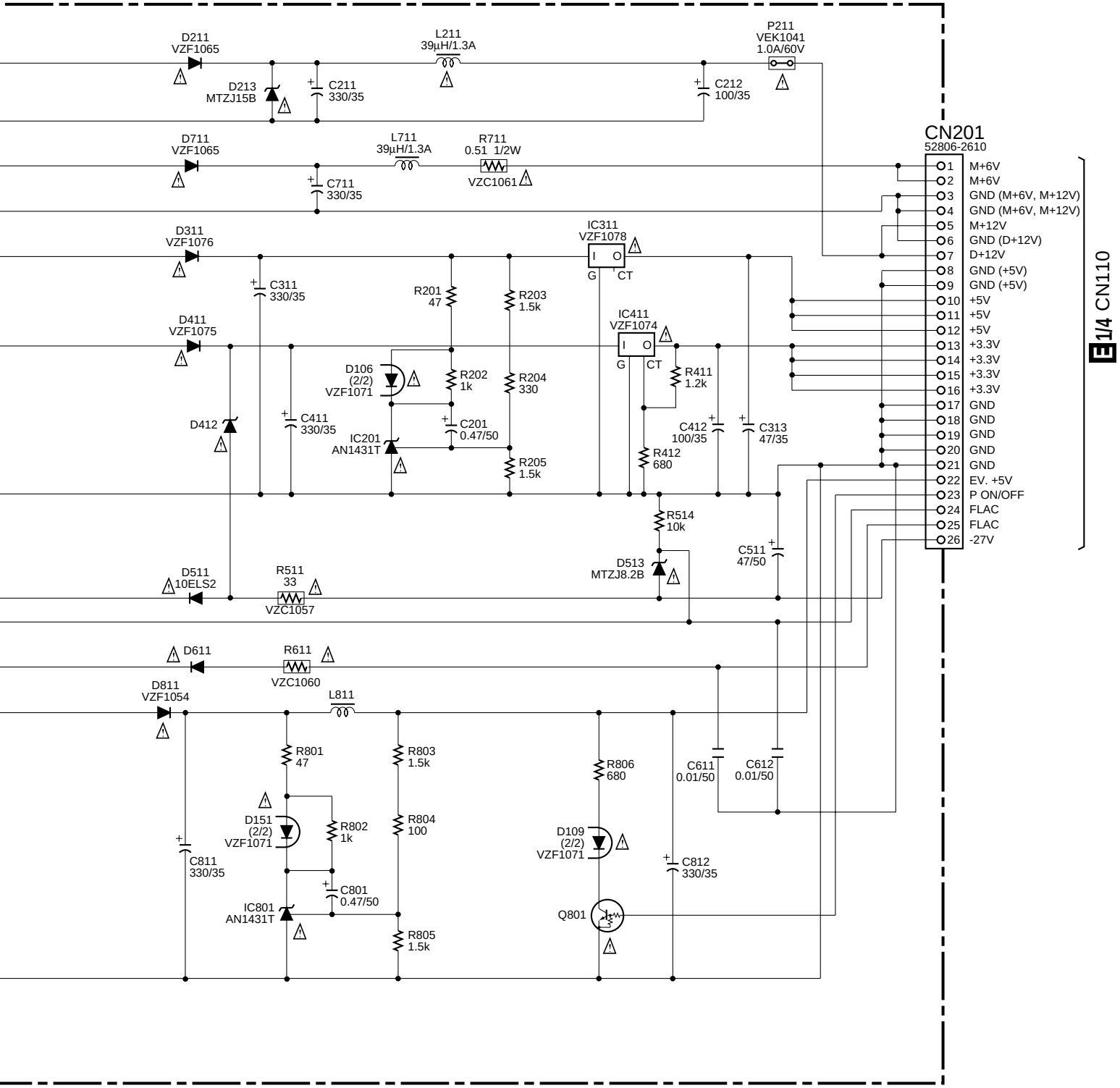
**《 NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) ASSY 》**

- In case of repairing, use the described parts only to prevent an accident.
- Please write the red √ mark on the board when the primary section of POWER SUPPLY (SYPS) Assy is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.



• NOTE FOR FUSE REPLACEMENT

**CAUTION -** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.




CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491001 MFD. BY LITTELFUSE INC. FOR P211.

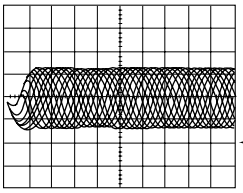
# ■ WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

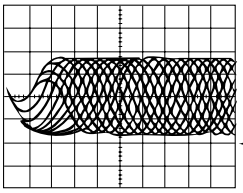
Measurement condition : No. 1 to 4 and 6 to 11 : Disc MA1, Title 1-chp 1
No. 5 : CD, ABEX-784 Track 1
No. 12 to 14 : MJK1, Title 1-chp 4 or T2-1
No. 15 to 17 : MJK1, Title 1-chp 5 or T2-19
No. 18 to 20 : T2-19, Color-bar (WY and WV Types only)

## ● DVDM ASSY

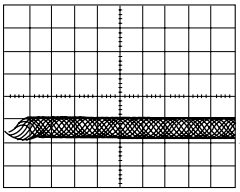
**① Foot of R169 (RF)**
V: 100mV/div. H: 0.2µsec/div.



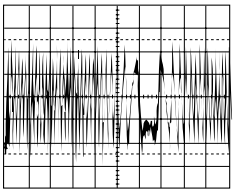

**② CN201 - pin 5, 6 (RFO)**
V: 500mV/div. H: 0.1µsec/div.



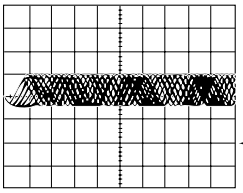

**③ IC701 - pin 170 (MY CHIP input)**
V: 1V/div. H: 0.2µsec/div.



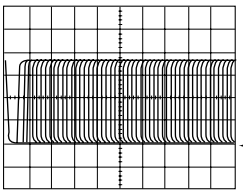

**④ CN201 - pin 9, 10 (Tracking Error) (AI-Inner Tracking Off)**
V: 500mV/div. H: 2msec/div.



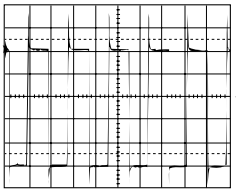
**⑤ IC201 - pin 39 (EFM before slice)**
V: 1V/div. H: 1µsec/div.



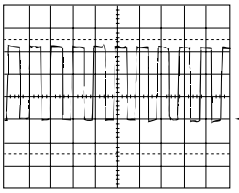

**⑥ IC201 - pin 1 (EFM)**
V: 1V/div. H: 0.2µsec/div.



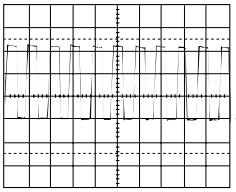

**⑦ Q281 - Collector (FG)**
V: 1V/div. H: 5msec/div.



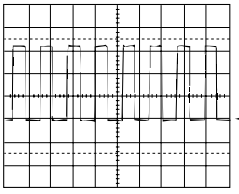

**⑧ Foot of R261 (FPWM)**
V: 1V/div. H: 5msec/div.



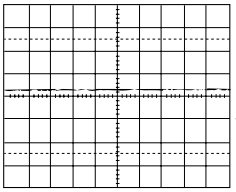

**⑨ Foot of R262 (VPWM)**
V: 1V/div. H: 5msec/div.




**⑩ Foot of R263 (PPWM)**
V: 1V/div. H: 5msec/div.

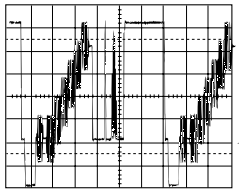



**⑪ Foot of R264 (RPWM)**
V: 1V/div. H: 5msec/div.

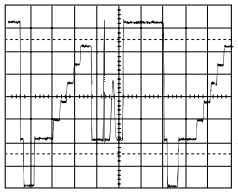



## ● VQEB ASSY

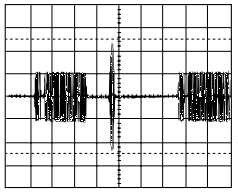
**⑫ Q541 Base (Composite Video output)**
V: 0.1V/div. H: 10µsec/div.



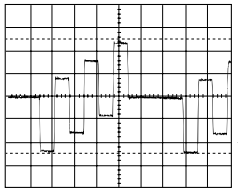

**⑬ Q551 Base (Y output)**
V: 0.1V/div. H: 10µsec/div.



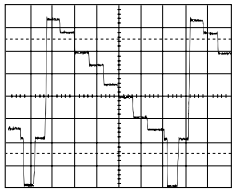

**⑭ Q531 Base (C output )**
V: 0.1V/div. H: 10µsec/div.



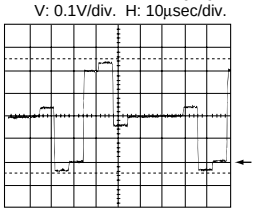

**⑮ Q541 Base ($C_B$ output when selecting color difference output)**
V: 0.1V/div. H: 10µsec/div.



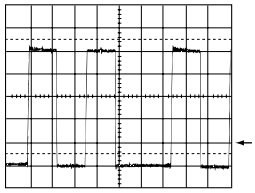

**⑯ Q551 Base (Y output when selecting color difference output)**
V: 0.1V/div. H: 10µsec/div.



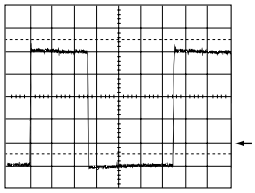
**⑰ Q531 Base ($C_R$ output when selecting color difference output)**
V: 0.1V/div. H: 10µsec/div.



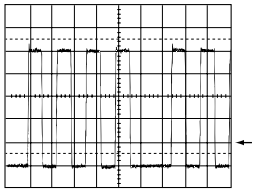

**⑱ Q501 Base (R output when select RGB)**
V: 0.1V/div. H: 10µsec/div.




**⑲ Q521 Base (G output when select RGB)**
V: 0.1V/div. H: 10µsec/div.




**⑳ Q511 Base (B output when select RGB)**
V: 0.1V/div. H: 10µsec/div.



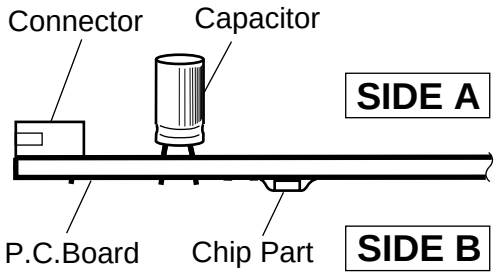
# 4. PCB CONNECTION DIAGRAM

## NOTE FOR PCB DIAGRAMS :

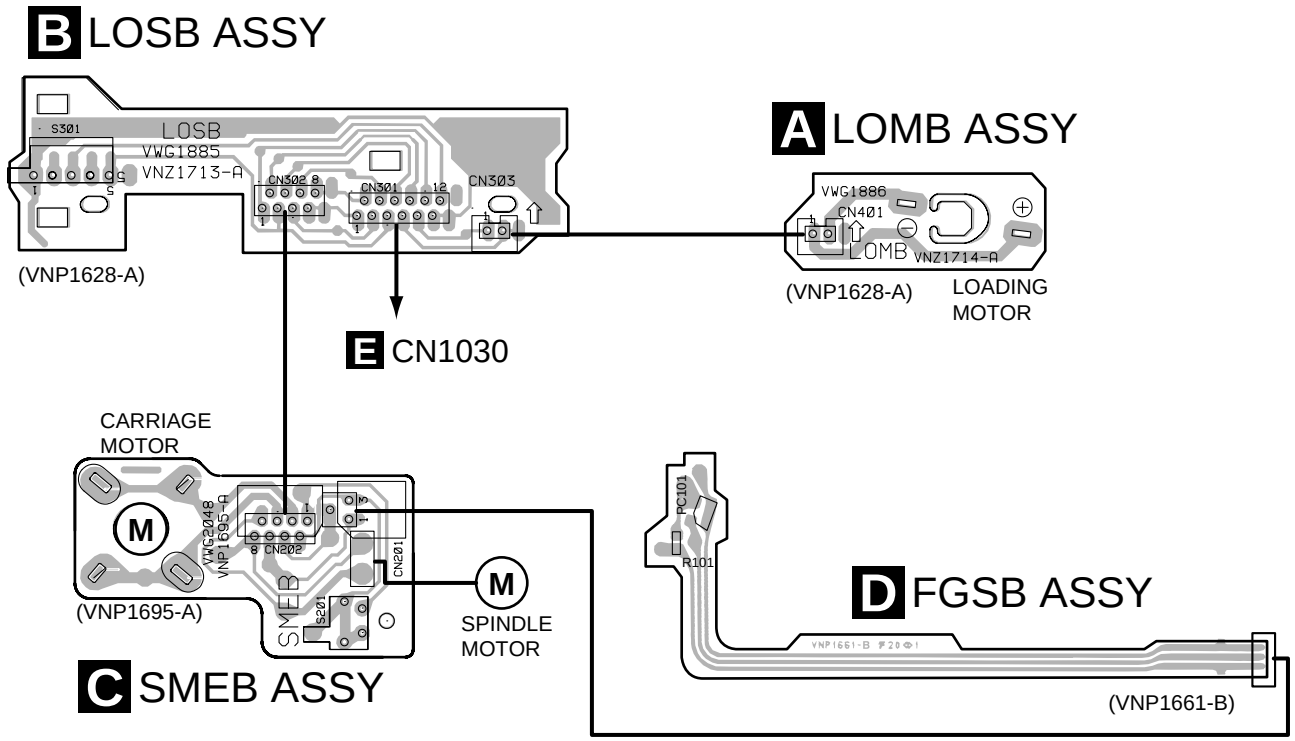
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

| Symbol In PCB Diagrams | Symbol In Schematic Diagrams | Part Name |
|---|---|---|
| B C E | B C E B C E | Transistor |
| B C E | B C E B C E | Transistor with resistor |
| D G S | D G S D G S | Field effect transistor |
| | | Resistor array |
| | | 3-terminal regulator |

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



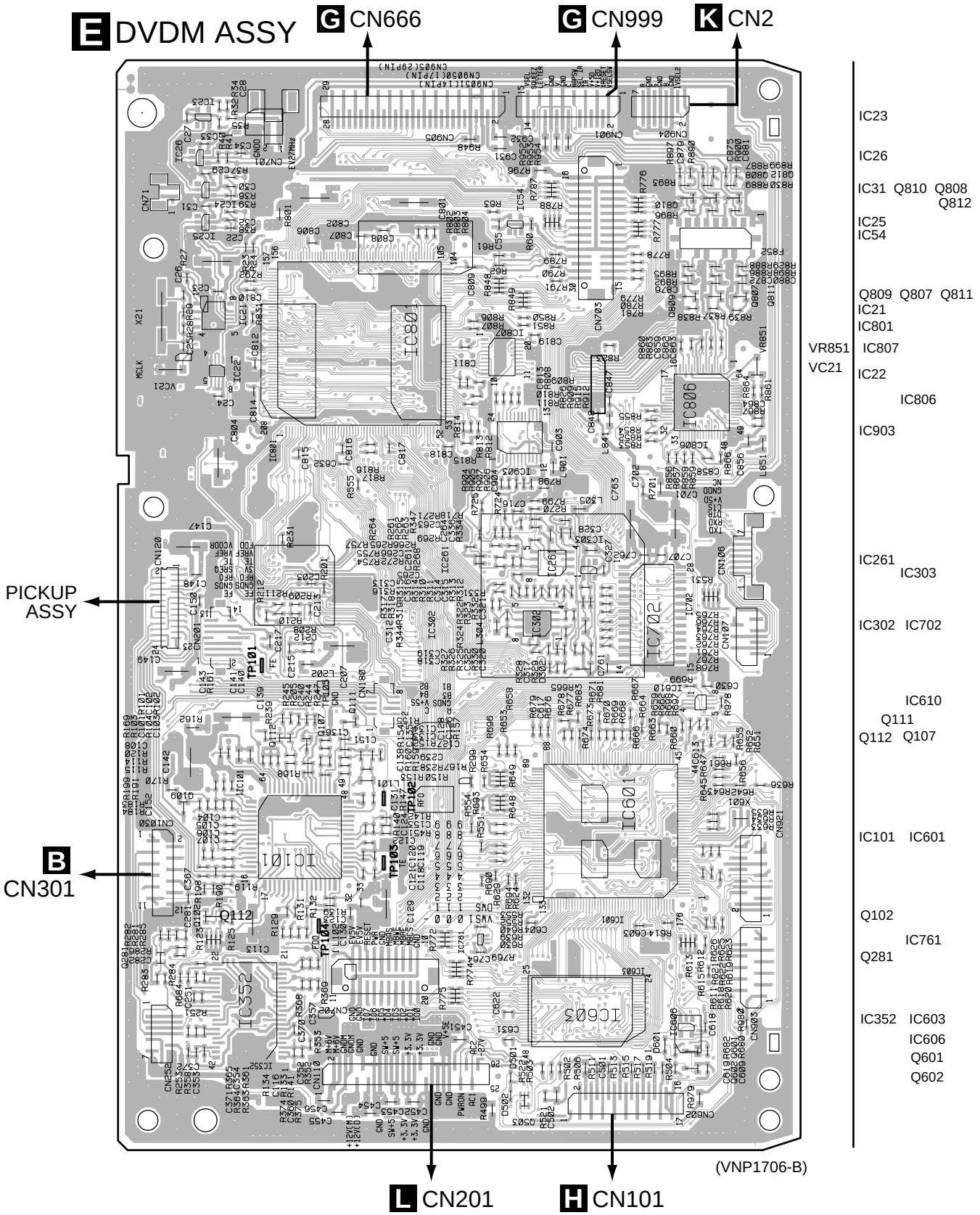

## 4.1 LOMB, LOSB, SMEB and FGSB ASSYS




**SIDE A**

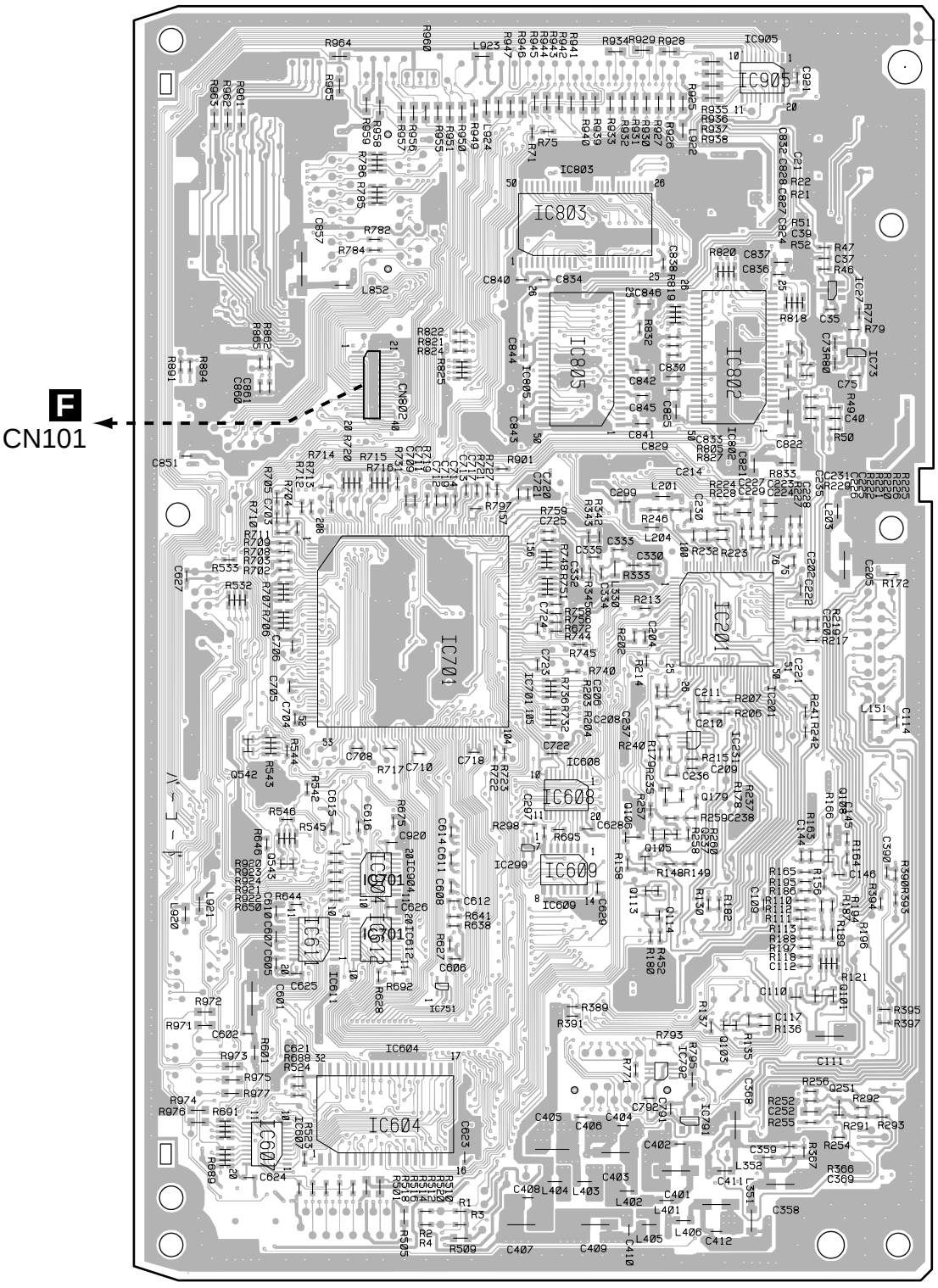
## 4.2 DVDM ASSY

• This PCB is a four-layered board.



• This PCB is a four-layered board.

## E DVDM ASSY

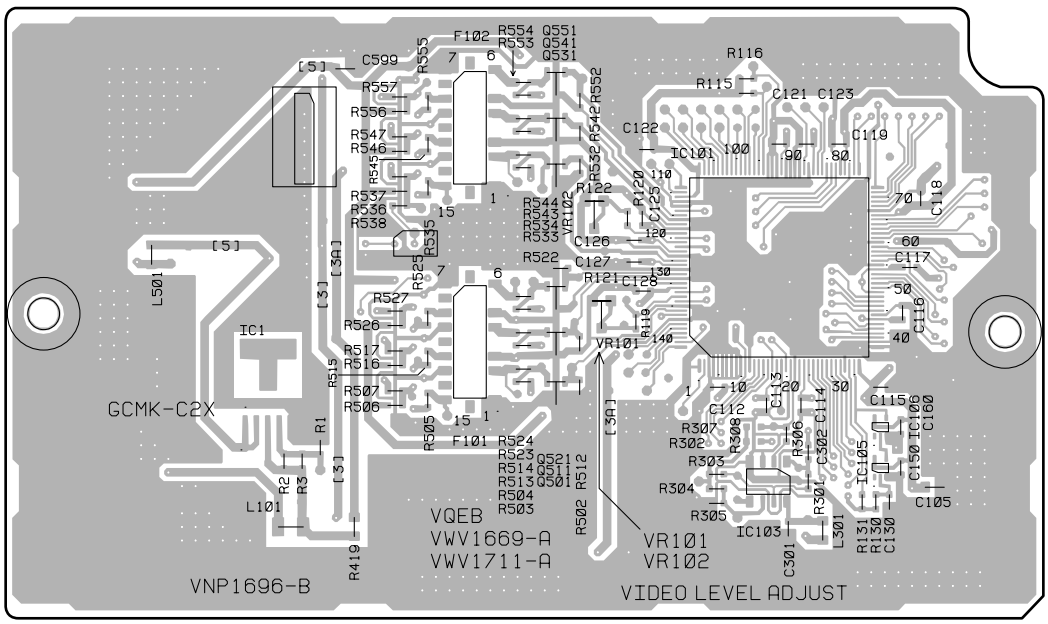



**SIDE B**

## 4.3 VQEB ASSY

### F VQEB ASSY

**SIDE A**



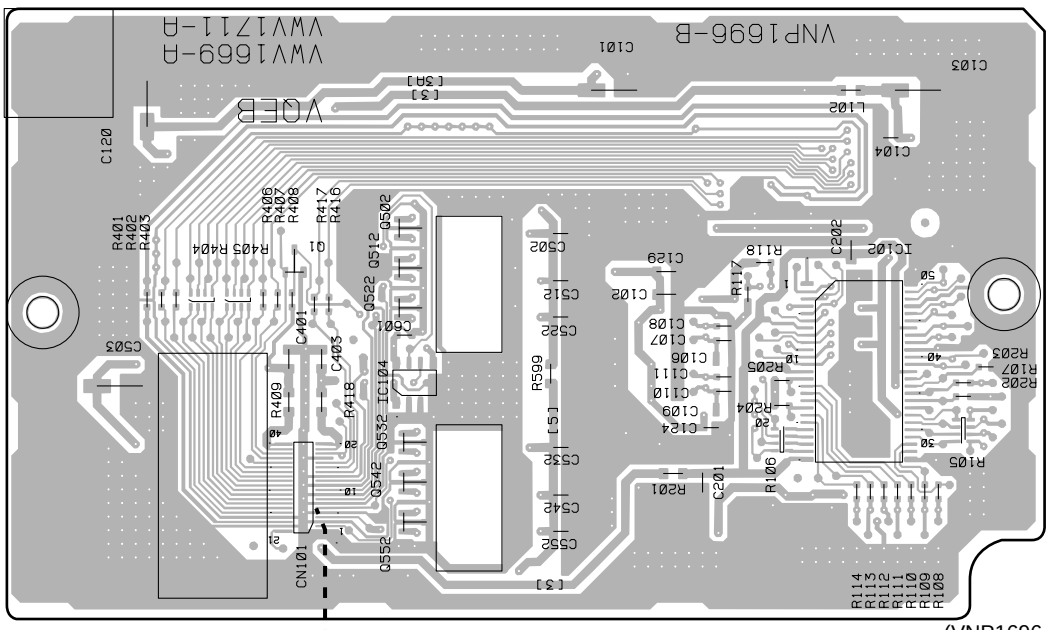

(VNP1696-B)

VR102
VR101

IC1 | Q551 Q541 Q531 Q521 Q511 Q501 | IC103 | IC106 IC105

### F VQEB ASSY

**SIDE B**



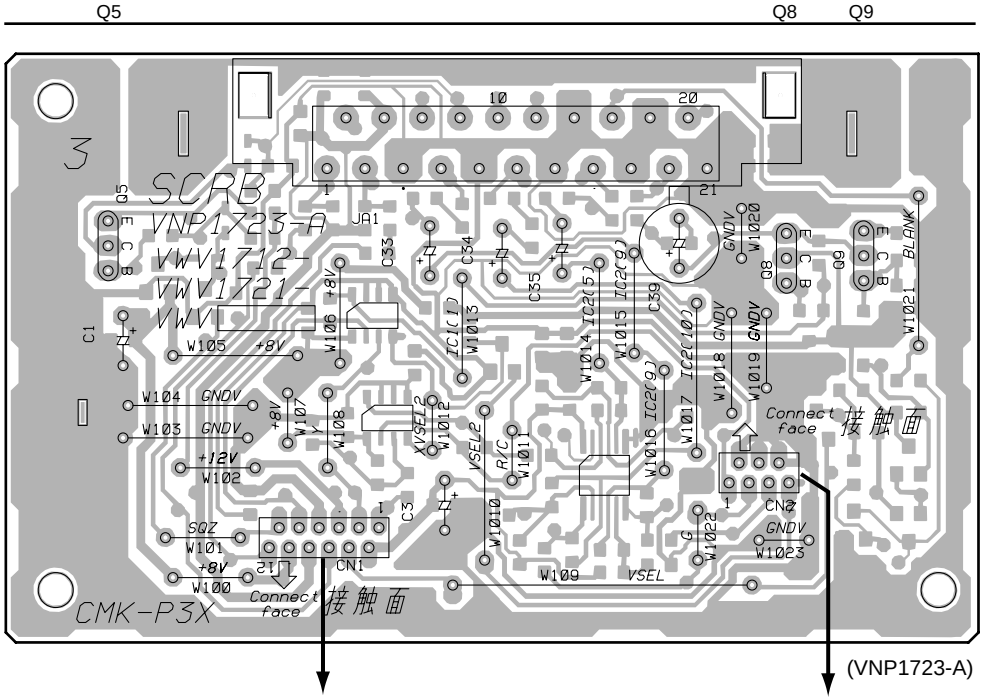
(VNP1696-B)

E CN802

Q1 | Q502 Q512 Q522 IC104 Q532 Q542 Q552 | IC102

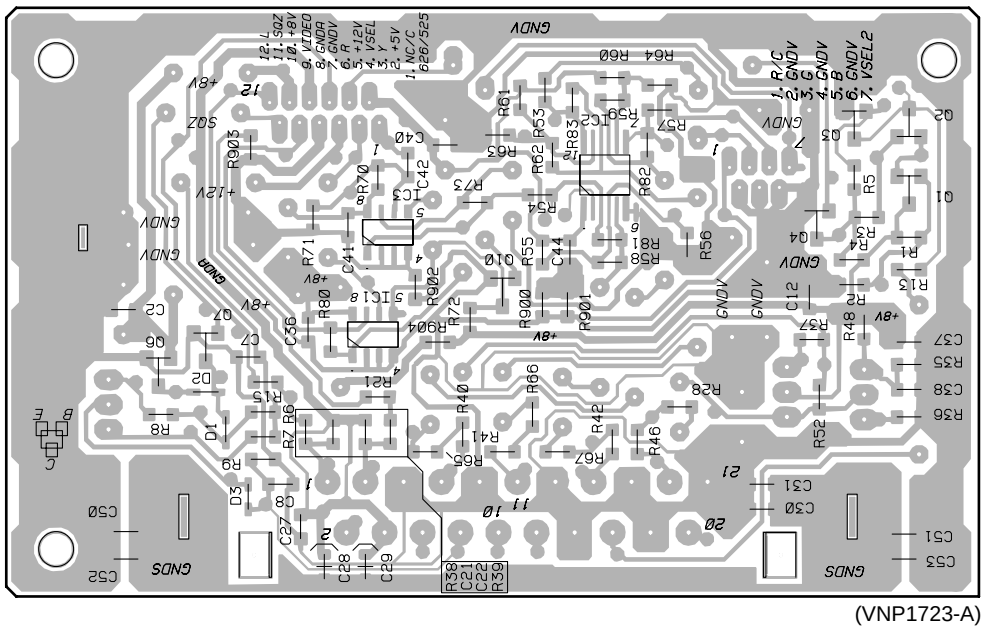
## 4.4 SCRB ASSY

### K SCRB ASSY




**SIDE A**

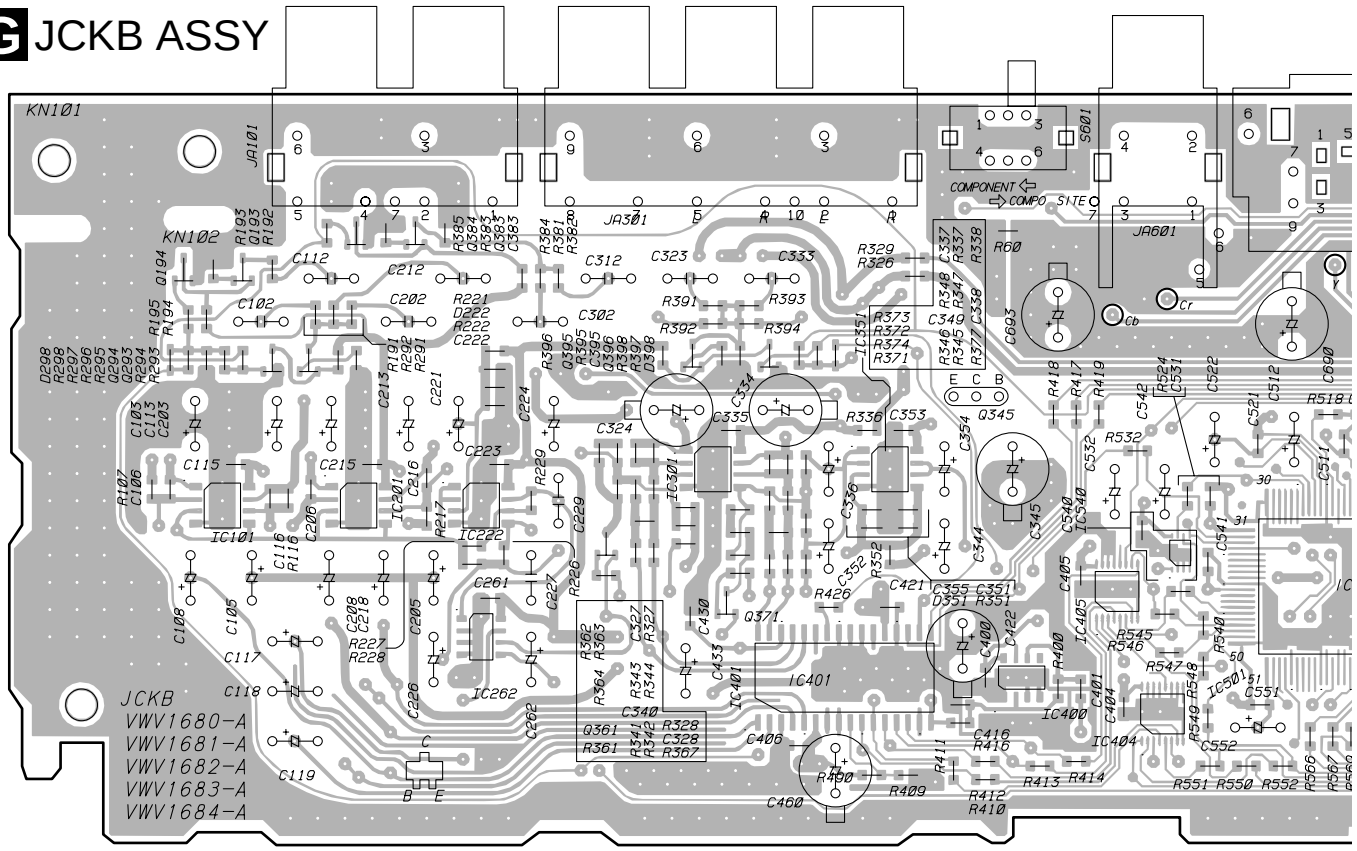
### K SCRB ASSY




**SIDE B**

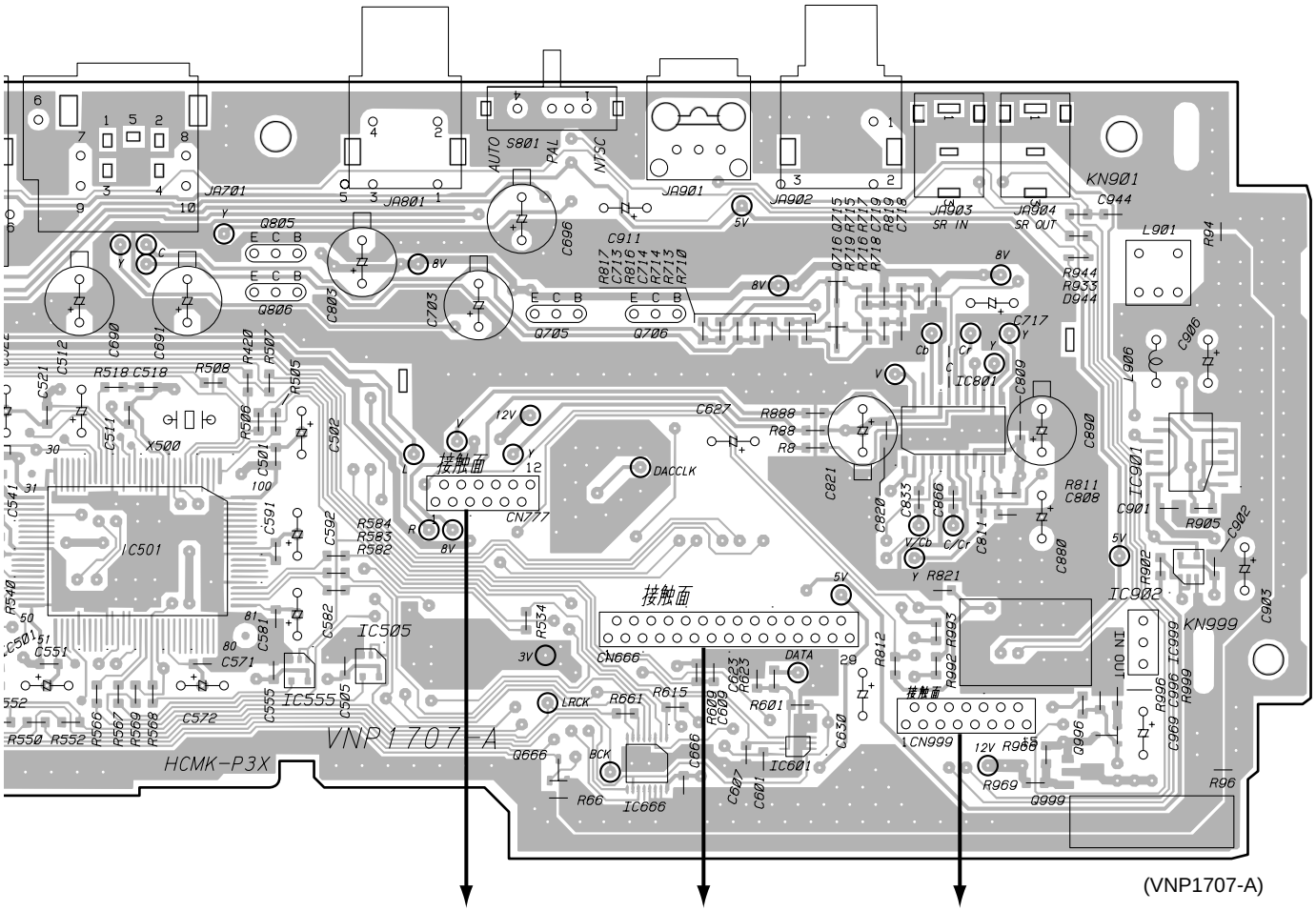
## 4.5 JCKB ASSY

G JCKB ASSY



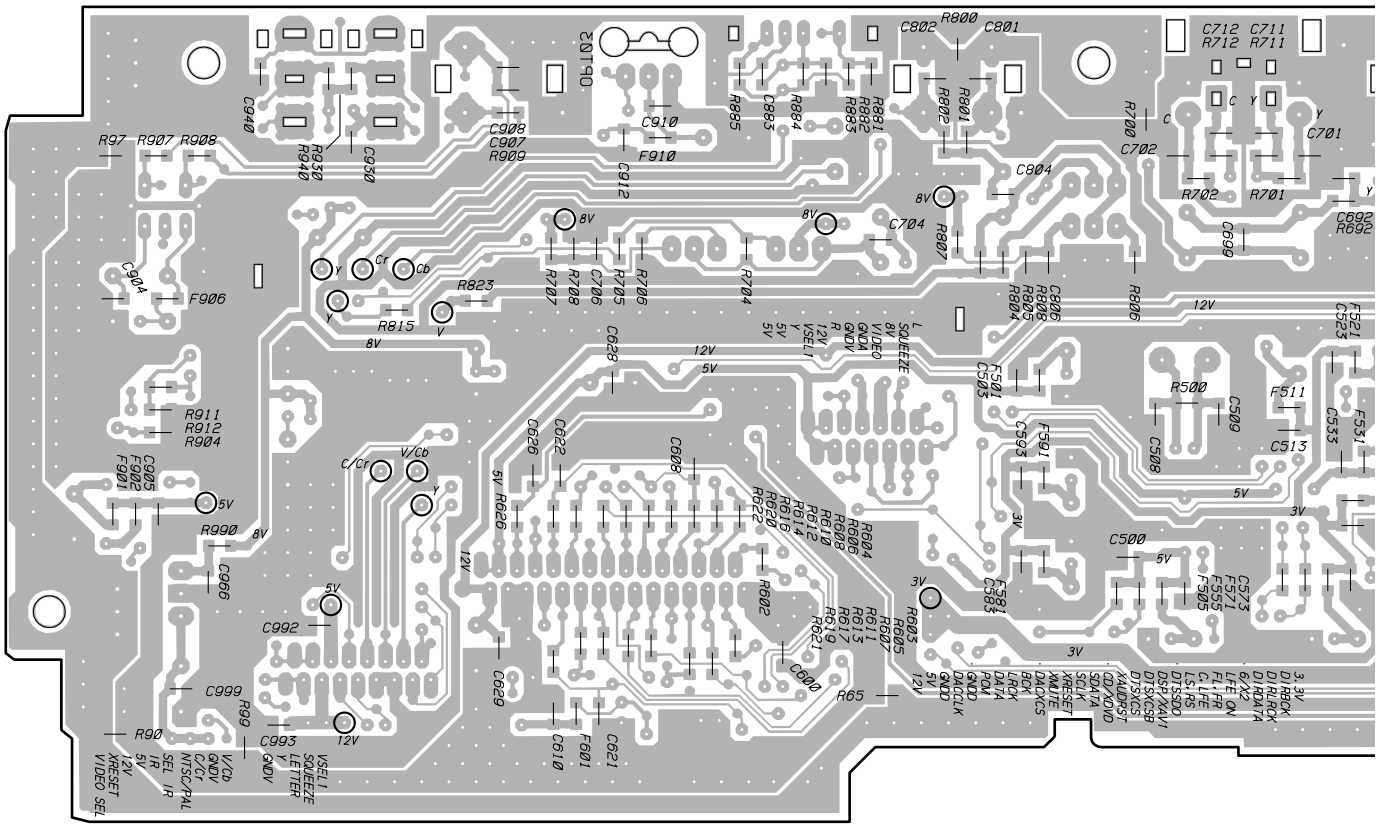

Q194 Q193 Q384 Q385 Q395 Q396 Q345 IC405 IC540 IC5(
Q294 Q293 IC301 IC351 IC400 IC404
IC101 IC201 IC222 Q371 IC401
IC262

**SIDE A**

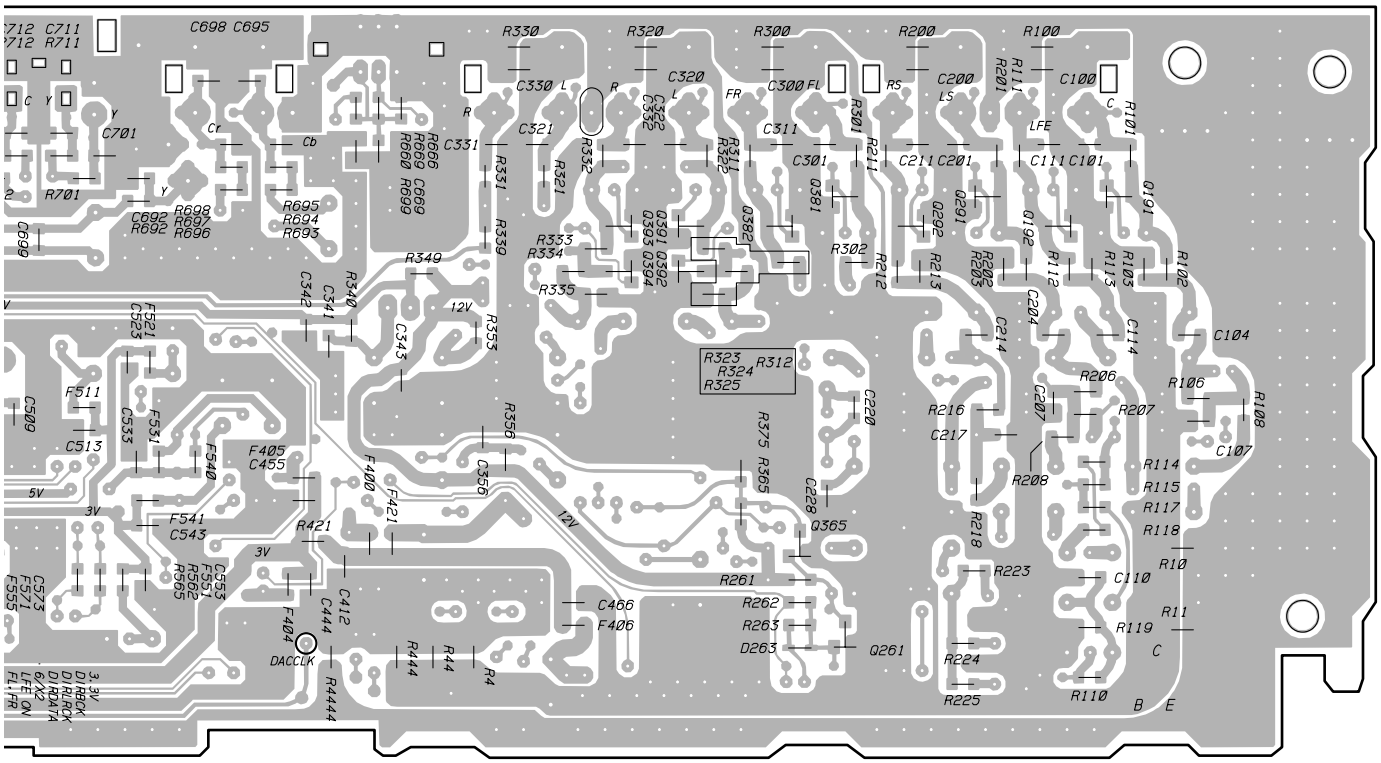



IC501 Q805 Q806 IC555 IC505 Q705 Q706 Q666 IC666 IC601 Q715 Q716 IC901 IC902 IC999 Q996

## G JCKB ASSY



**SIDE B**

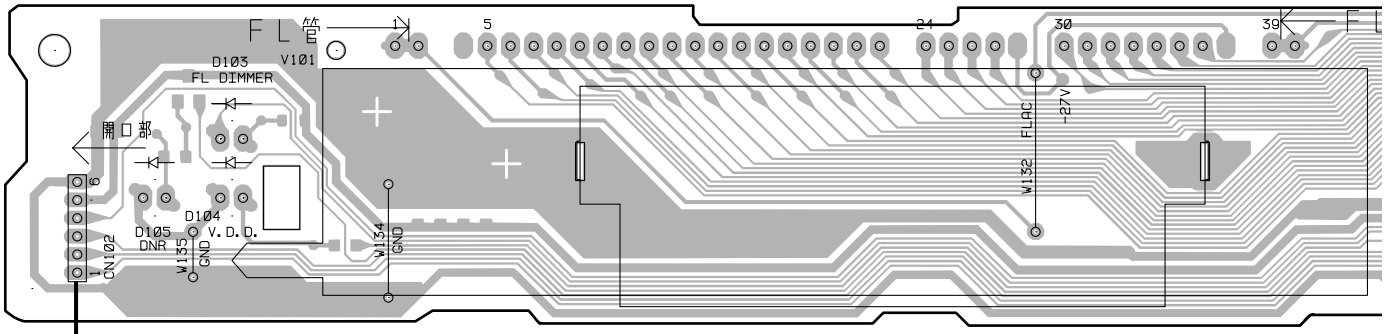



(VNP1707-A)

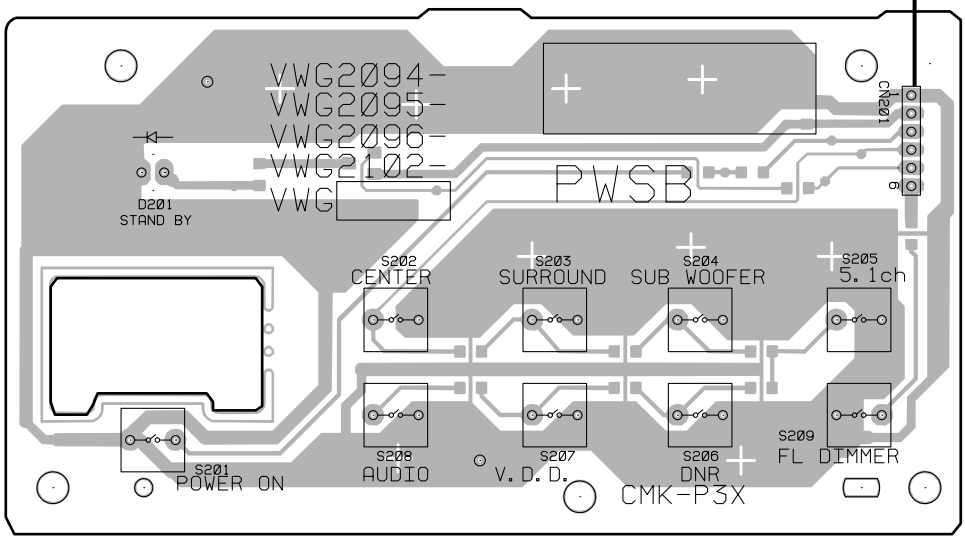
Q393 Q391 Q382 Q381 Q292 Q291 Q192 Q191
Q394 Q392 Q365
Q261

## 4.6 FLKY, PWSB and DILB ASSYS

### H FLKY ASSY



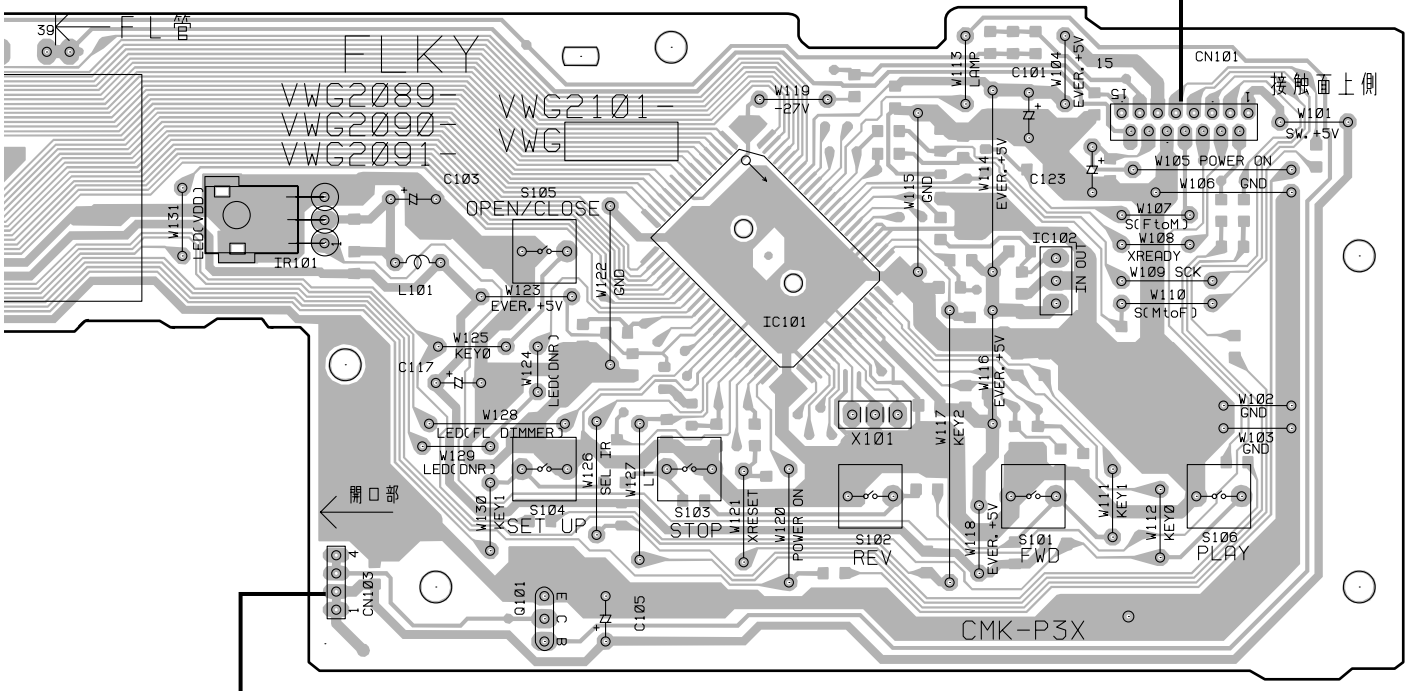

### I PWSB ASSY




(VNP1709-A)

**SIDE A**

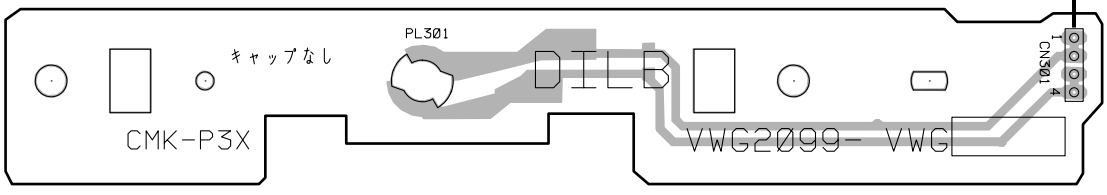
E CN602




(VNP1709-A)

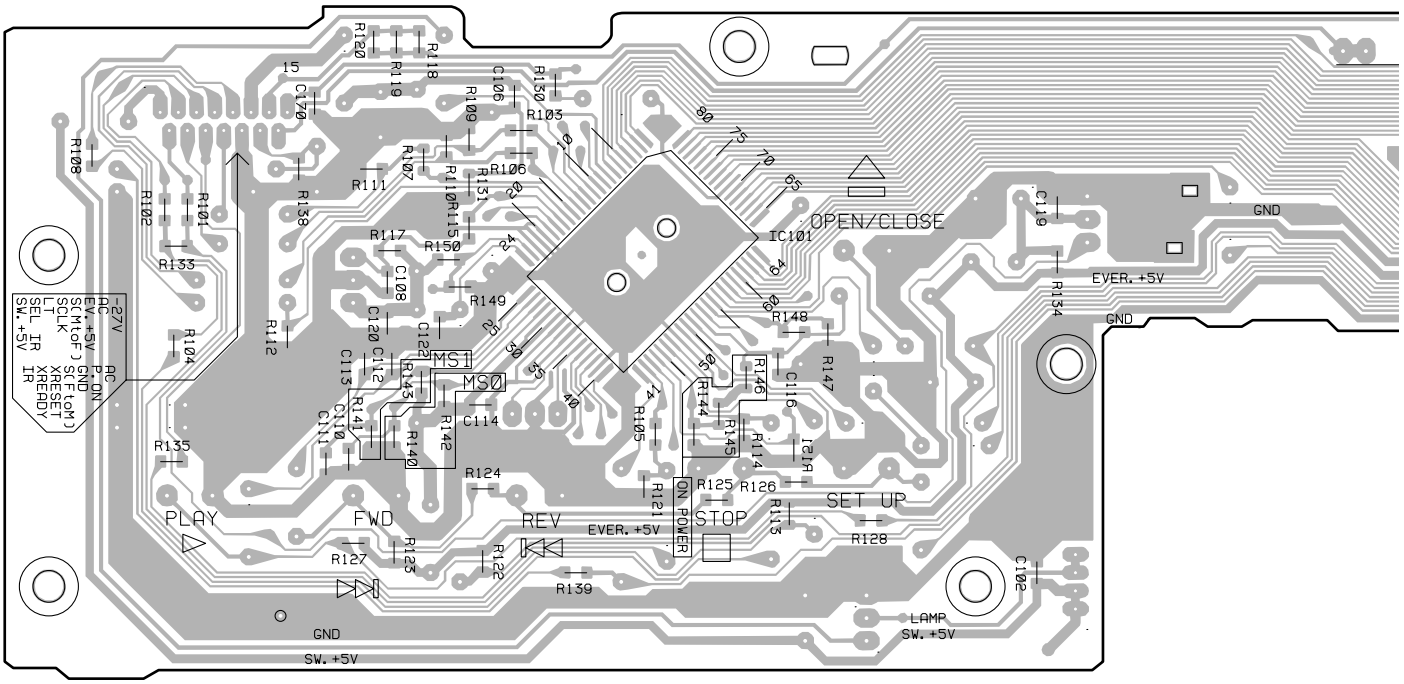
Q101 IC101 IC102

J DILB ASSY

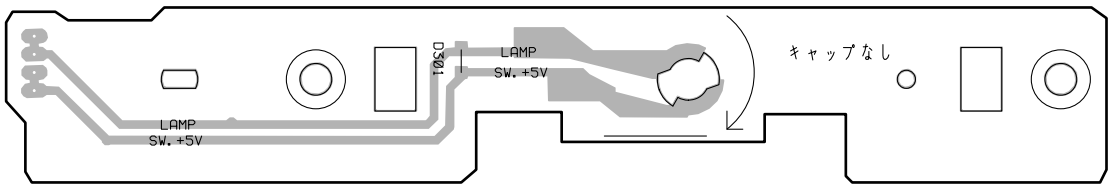



(VNP1709-A)

## H FLKY ASSY



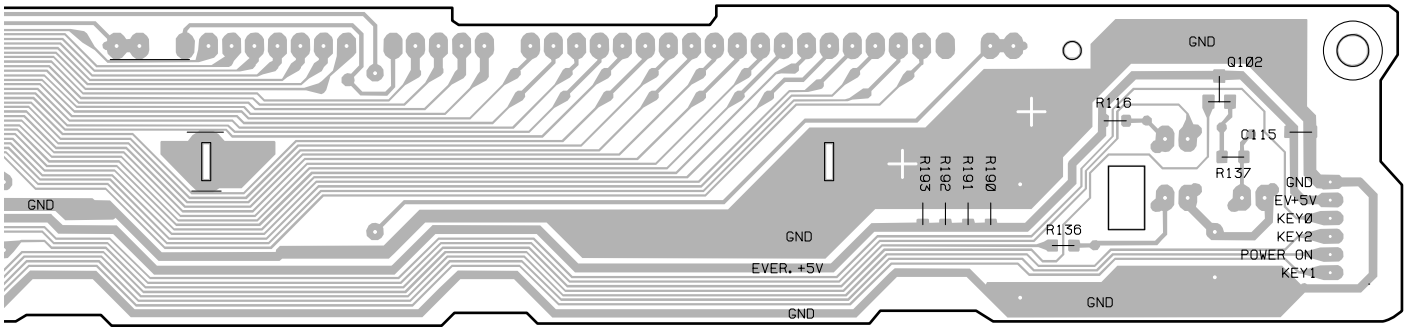

## J DILB ASSY




(VNP1709-A)

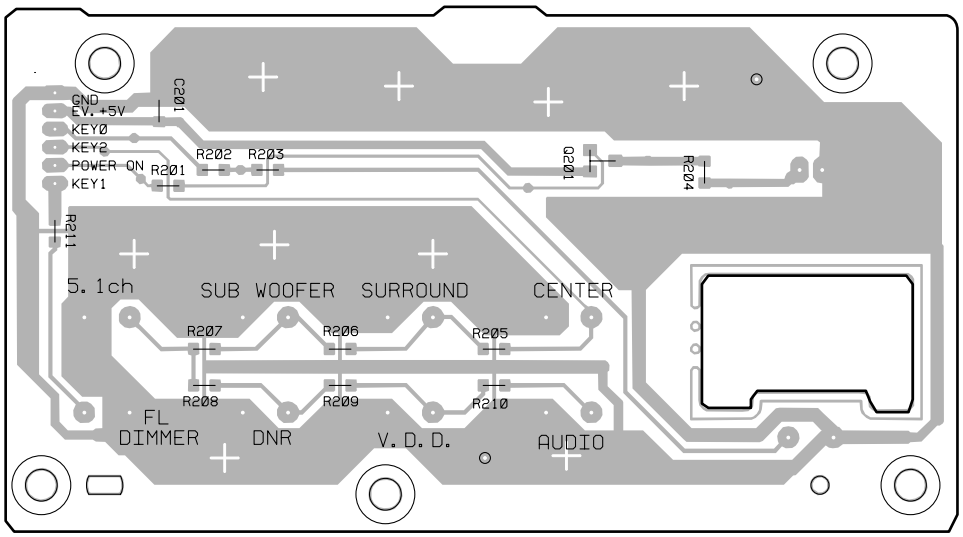
**SIDE B**

Q102



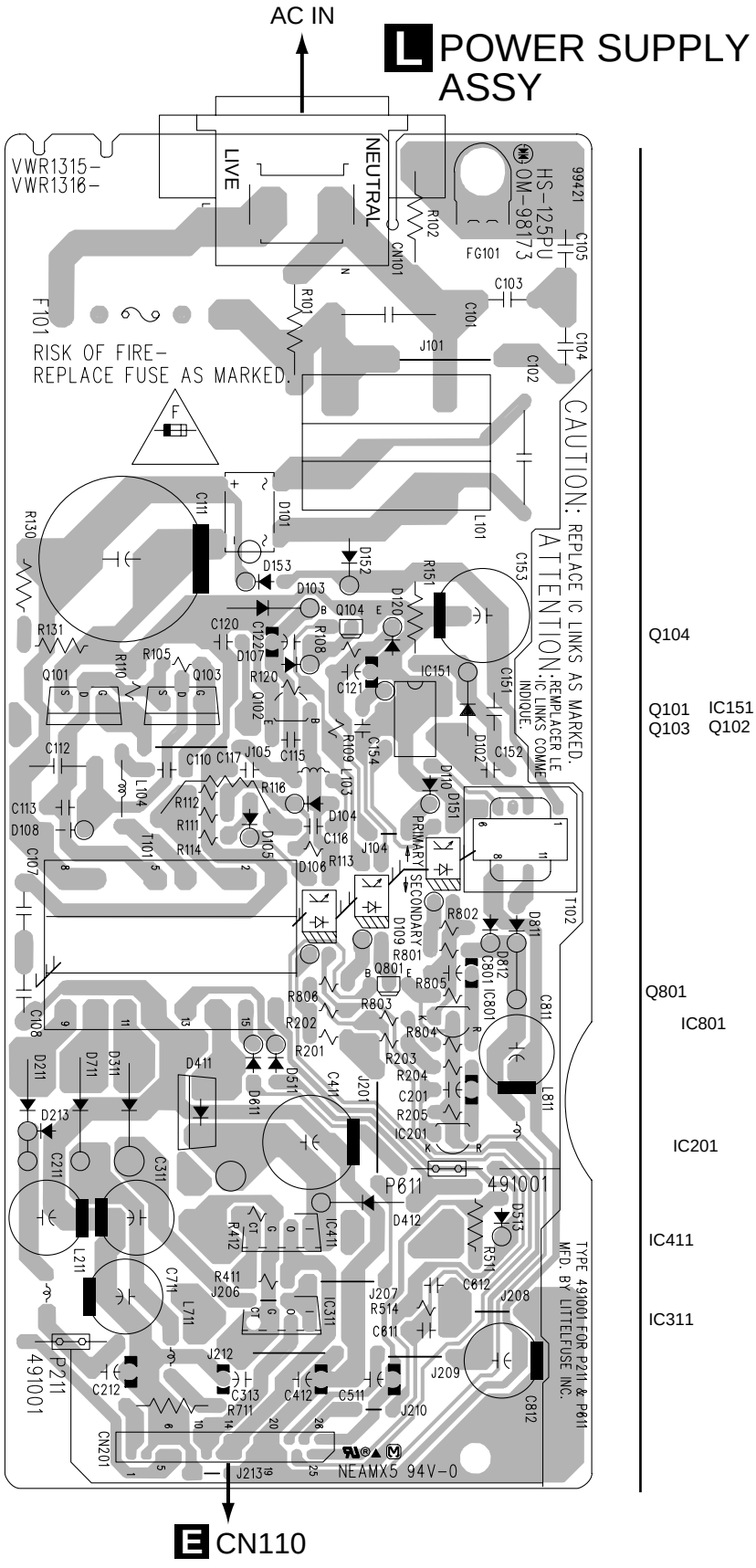

(VNP1709-A)

## PWSB ASSY



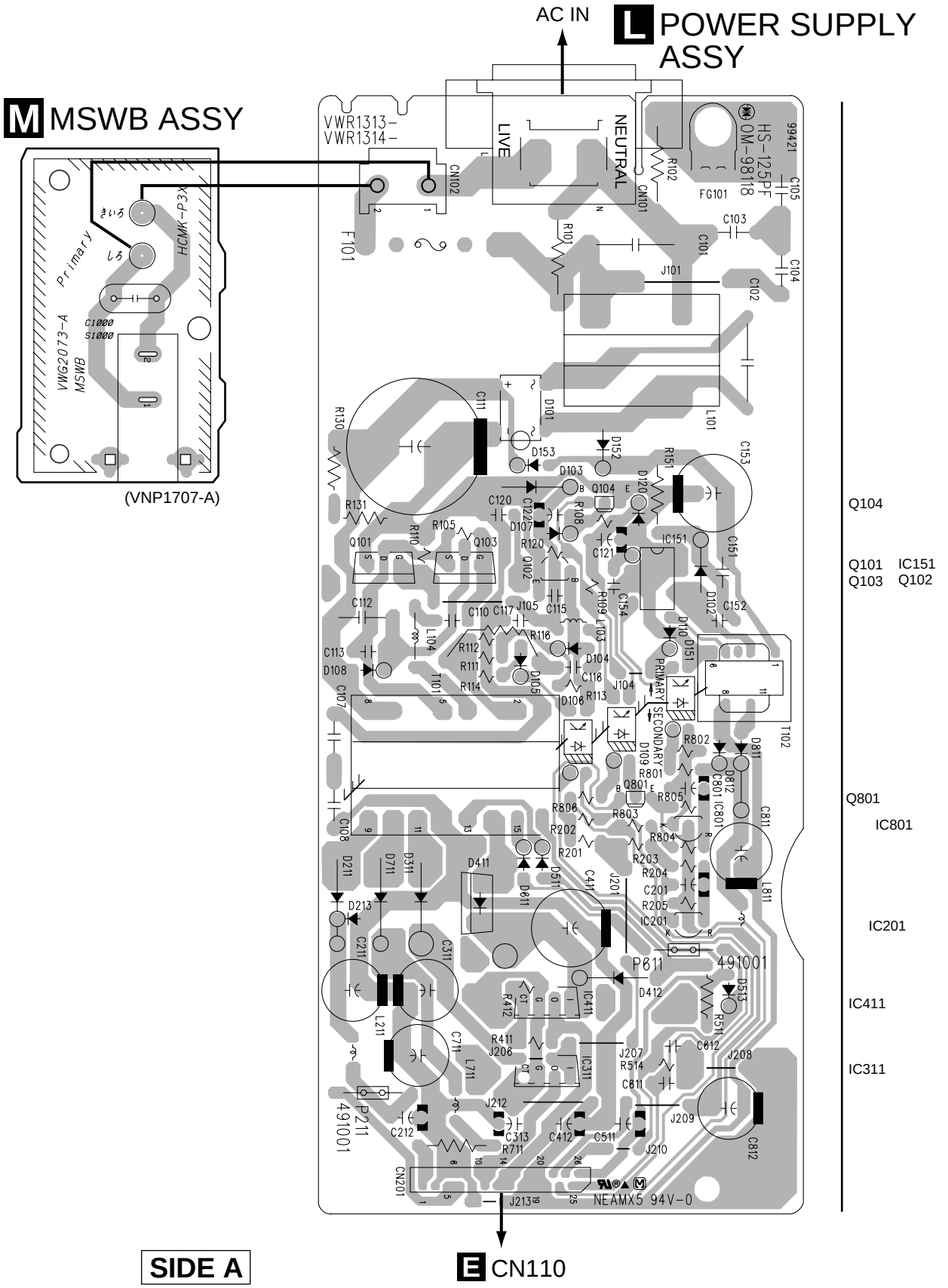

(VNP1709-A)

## 4.7 POWER SUPPLY ASSY (For KU and KC Types)




**SIDE A**

## 4.8 POWER SUPPLY and MSWB ASSYS (For WY and WV Types)



# 5. PCB PARTS LIST

*NOTES:* ●*Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
●*The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
●*When ordering resistors, first convert resistance values into code form as shown in the following examples.*
*Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).*
*560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J*
*47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J*
*0.5 Ω → R50 ..... RN2H R 5 0 K*
*1 Ω → 1R0 ..... RS1P 1 R 0 K*
*Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).*
*5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F*

## ■LIST OF WHOLE PCB ASSEMBLIES

| Mark | Symbol and Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|
| | | KU Type | KC Type | WY Type | WV Type | |
| NSP | LOAB ASSY | VWM1798 | VWM1798 | VWM1798 | VWM1798 | |
| NSP | ├ LOMB ASSY | VWG1886 | VWG1886 | VWG1886 | VWG1886 | |
| NSP | └ LOSB ASSY | VWG1885 | VWG1885 | VWG1885 | VWG1885 | |
| | | | | | | |
| NSP | TRAVERSE MECHANISM ASSY | VWT1161 | VWT1161 | VWT1161 | VWT1161 | |
| NSP | ├ SMEB ASSY | VWG2048 | VWG2048 | VWG2048 | VWG2048 | |
| NSP | └ FGSB ASSY | VWG2009 | VWG2009 | VWG2009 | VWG2009 | |
| | | | | | | |
| | DVDM ASSY | VWS1384 | VWS1384 | VWS1393 | VWS1393 | |
| | VQEB ASSY | VWV1669 | VWV1669 | VWV1711 | VWV1711 | |
| | JCKB ASSY | VWV1682 | VWV1682 | Not used | Not used | |
| | | | | | | |
| | JCKB ASSY | Not used | Not used | VWM1936 | VWM1936 | |
| | ├ JCKB ASSY | Not used | Not used | VWV1681 | VWV1681 | |
| NSP | └ MSWB ASSY | Not used | Not used | VWG2073 | VWG2073 | |
| | | | | | | |
| NSP | FLKB ASSY | VWM1931 | VWM1931 | VWM1932 | VWM1932 | |
| | ├ FLKY ASSY | VWG2089 | VWG2089 | VWG2090 | VWG2090 | |
| NSP | ├ PWSB ASSY | VWG2094 | VWG2094 | VWG2095 | VWG2095 | |
| NSP | └ DILB ASSY | VWG2099 | VWG2099 | VWG2099 | VWG2099 | |
| | | | | | | |
| | SCRB ASSY | Not used | Not used | VWV1721 | VWV1721 | |
| ⚠ | POWER SUPPLY ASSY | VWR1316 | VWR1316 | VWR1314 | VWR1314 | |

## ■CONTRAST OF PCB ASSEMBLIES

### E DVDM ASSY

VWS1384 and VWS1393 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | VWS1384 | VWS1393 | |
| | IC803 | M5M4V18165DTP-6S | Not used | |
| | C834,C838,C840 | CKSRYF104Z16 | Not used | |
| | R1 | Not used | RS1/16S333J | |
| | R2 | RS1/16S103J | RS1/16S223J | |
| | R3 | Not used | RS1/16S103J | |
| | R4 | RS1/16S103J | Not used | |
| | R961-R963, R965 | Not used | RS1/10S0R0J | |
| | CN904 7P FFC CONNECTOR | Not used | VKN1575 | |

### F VQEB ASSY

VWV1669 and VWV1711 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | VWV1669 | VWV1711 | |
| | IC104 | Not used | TC4W53F | |
| | Q1 | Not used | DTC124EK | |
| | Q501,Q502,Q511,Q512,Q521,Q522 | Not used | 2PB709A | |
| | F101 | Not used | VTF1155 | |
| | C107,C108,C127,C128,C502,C512,C522,C601 | Not used | CKSRYB104K16 | |
| | R119 | Not used | RS1/16S271J | |
| | R121 | Not used | RS1/10S2701F | |
| | R408 | Not used | RS1/16S103J | |
| | R502,R512,R522 | Not used | RS1/16S3300F | |
| | R503,R506,R513,R516,R523,R526 | Not used | RS1/16S182J | |
| | R504,R514,R524 | Not used | RS1/16S4700F | |
| | R505,R515,R525 | Not used | RS1/16S101J | |
| | R507,R517,R527,R538 | Not used | RS1/16S0R0J | |

### G JCKB ASSY

VWV1682 and VWV1681 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | VWV1682 | VWV1681 | |
| | S601 | VSH1009 | Not used | |
| | S801 | Not used | VSH1020 | |
| | C691 | CEAT102M6R3 | Not used | |
| | C693,C696 | CEAT471M6R3 | Not used | |
| | C812 | Not used | CKSQYB105K10 | |
| | R8,R88,R326,R329,R339,R669,R821,R888 | Not used | RS1/10S0R0J | |
| | R692,R694,R697 | RN1/10SC62R0D | Not used | |
| | R693,R696,R699,R812 | RS1/10S0R0J | Not used | |
| | R881 | Not used | RS1/10S103J | |
| | R882 | Not used | RS1/10S153J | |
| | R884 | RS1/10S682J | Not used | |
| | R885 | Not used | RS1/10S682J | |
| | CN777 12P FFC CONNECTOR | Not used | VKN1243 | |
| | JA601 3P PIN JACK | VKB1112 | Not used | |
| | KN101 EARTH METAL FITTING | VNF1084 | Not used | |
| | PCB BINDER | Not used | VEF1040 | |
| | PC BOARD JCKB | VNP1707 | Not used | |

## H FLKY ASSY

VWG2089 and VWG2090 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | VWG2089 | VWG2090 | |
| | C123 | Not used | CEJA220M6R3 | |
| | R118-R120 | RS1/10S0R0J | RS1/10S120J | |
| | R141 | RS1/10S622J | RS1/10S273J | |
| | R143 | RS1/10S363J | RS1/10S203J | |
| | R144 | RS1/10S0R0J | Not used | |
| | R145,R146 | Not used | RS1/10S0R0J | |

## I PWSB ASSY

VWG2094 and VWG2095 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | VWG2094 | VWG2095 | |
| | Q201 | Not used | PDTA124EK | |
| | D201 | Not used | SLR-343VC | |
| | S201 | ASG7013 | Not used | |
| | C201 | Not used | CKSQYF104Z25 | |
| | R201 | Not used | RS1/10S0R0J | |
| | R204 | Not used | RS1/10S181J | |
| | J201 | Not used | DE012WC0 | |

# PCB PARTS LIST FOR DV-626D/KU UNLESS OTHERWISE NOTED

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **A** | **LOMB ASSY** | | |
| | **OTHERS** | | |
| | CN401 | KR CONNECTOR | B2B-PH-K-S |
| **B** | **LOSB ASSY** | | |
| | **SWITCH** | | |
| | S301 | | VSK1011 |
| | **OTHERS** | | |
| | CN303 | KR CONNECTOR | B2B-PH-K-S |
| | CN302 | 8P FFC CONNECTOR | VKN1268 |
| | CN301 | 12P FFC CONNECTOR | VKN1272 |
| **C** | **SMEB ASSY** | | |
| | **SWITCH** | | |
| | S201 | | DSG1016 |
| | **OTHERS** | | |
| | CN201 | 3P FFC CONNECTOR | 52044-0345 |
| | CN202 | 8P FFC CONNECTOR | VKN1212 |
| | | PC BOARD SMEB | VNP1695 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **D** | **FGSB ASSY** | | |
| | **SEMICONDUCTOR** | | |
| | PC101 | | TLP910(O) |
| | **RESISTORS** | | |
| | All Resistors | | RS1/10S□□□J |
| **E** | **DVDM ASSY** | | |
| | **SEMICONDUCTORS** | | |
| | IC21 | | CY2081SL-655 |
| | IC101 | | LA9701M |
| | IC201 | | LC78652W |
| | IC903 | | LC89051V |
| | IC352 | | M56788FP |
| | IC803 | | M5M4V18165DTP-6S |
| | IC801 | | M65773FP |
| | IC802 | | MB811171622A-100FN |
| | IC612 | | MC74VHC541DT |
| | IC611,IC807,IC905 | | MC74VHCT541ADT |
| | IC702 | | MN414800CSJ-07 |
| | IC261,IC302 | | NJM2100M |
| | IC601 | | PD3410A |
| | IC701 | | PD4995A |
| | IC604 | | TC55V1001AF8 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | IC751 | | TC7SH32FU |
| | IC24-IC27,IC303 | | TC7SHU04F |
| | IC610 | | TC7W53FU |
| | IC22 | | TC7WH74FU |
| | IC603 | | VYW1646 |
| | Q106,Q109 | | 2SA1576A |
| | Q105,Q114,Q251 | | 2SC4081 |
| | Q602 | | DTA114EUA |
| | Q107,Q111,Q601 | | DTC114EUA |
| | Q102 | | HN1A01F |
| | Q103,Q281,Q542,Q543 | | HN1B04FU |
| | Q101 | | HN1C01F |
| | Q112,Q113 | | HN1C01FU |
| | Q108 | | HN1K03FU |
| | Q503 | | RN1911 |
| | D302 | | KV1470 |
| | D601 | | RB501V-40 |
| | D501,D502 | | RB521S-30 |

## COILS AND FILTERS

| | | |
|---|---|---|
| | F5050,F5090 | DTF1067 |
| | F4010,F4020,F4030,F4040,F4050 | DTF1070 |
| | F4060,F8330,F9010,F9590 | DTF1070 |
| | L304 | VTL1059 |
| | L151 | VTL1061 |
| | L1400 | VTL1088 |
| | L9490,L9500,L9510 | VTL1105 |
| | L101,L330 | VTL1125 |

## CAPACITORS

| | | |
|---|---|---|
| | C612 | CCSRCH100D50 |
| | C123,C145,C21,C282,C617 | CCSRCH101J50 |
| | C26 | CCSRCH120J50 |
| | C126,C333 | CCSRCH150J50 |
| | C206,C210,C211 | CCSRCH151J50 |
| | C322 | CCSRCH180J50 |
| | C116,C151,C314 | CCSRCH220J50 |
| | C152 | CCSRCH221J50 |
| | C632 | CCSRCH330J50 |
| | C209 | CCSRCH331J50 |
| | C104-C108,C128,C134,C297 | CCSRCH470J50 |
| | C335 | CCSRCH470J50 |
| | C122,C208 | CCSRCH471J50 |
| | C127,C334 | CCSRCH5R0C50 |
| | C124,C146 | CCSRCH680J50 |
| | C117,C240,C352,C360 | CCSRCH681J25 |
| | C129,C142,C22,C405,C601 | CEV101M10 |
| | C701,C763,C801,C802,C804 | CEV101M10 |
| | C113,C139,C358,C368,C411 | CEV220M16 |
| | C111,C147,C149,C205,C207 | CEV470M6R3 |
| | C401,C403,C407 | CEV470M6R3 |
| | C502 | CKSQYB103K50 |
| | C140,C223,C224,C252,C264 | CKSQYB105K10 |
| | C312 | CKSQYB105K10 |
| | C229 | CKSQYB224K16 |
| | C217 | CKSQYF105Z16 |
| | C216,C313 | CKSRYB102K50 |
| | C133,C136,C203,C220,C225 | CKSRYB103K50 |
| | C239,C320,C321,C619,C703 | CKSRYB103K50 |
| | C722,C904 | CKSRYB103K50 |
| | C101,C102,C114,C118,C119 | CKSRYB104K16 |
| | C121,C130,C138,C204 | CKSRYB104K16 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C212,C213,C227,C228,C231 | | CKSRYB104K16 |
| | C24,C263,C315-C317,C332 | | CKSRYB104K16 |
| | C281,C354 | | CKSRYB222K50 |
| | C153,C266 | | CKSRYB223K25 |
| | C214,C251,C261 | | CKSRYB472K50 |
| | C357 | | CKSRYB473K16 |
| | C330 | | CKSRYB682K50 |
| | C109,C110,C120,C131,C148 | | CKSRYF104Z16 |
| | C150,C202,C215,C221,C222 | | CKSRYF104Z16 |
| | C226,C230,C235,C265,C29 | | CKSRYF104Z16 |
| | C31,C33,C35,C359,C367 | | CKSRYF104Z16 |
| | C369-C372,C402,C404,C406 | | CKSRYF104Z16 |
| | C408,C410,C412,C501 | | CKSRYF104Z16 |
| | C602-C611,C613-C616 | | CKSRYF104Z16 |
| | C621-C623,C625-C627 | | CKSRYF104Z16 |
| | C630,C631,C702,C704-C714 | | CKSRYF104Z16 |
| | C716-C721,C723-C725 | | CKSRYF104Z16 |
| | C761,C762,C822,C827,C829 | | CKSRYF104Z16 |
| | C832-C834,C836,C838,C840 | | CKSRYF104Z16 |
| | C903,C921 | | CKSRYF104Z16 |
| | C143,C319,C806-C819 | | CKSRYF105Z10 |
| | C328,C821,C824,C825,C828 (2.2µF) | | VCG1030 |
| | C830,C837 (2.2µF) | | VCG1030 |
| | C23,C299 (0.47µF) | | VCG1032 |
| | VC21 (30pF) | | VCM1013 |

## RESISTORS

| | | |
|---|---|---|
| | R123 (39Ω×4) | ACN7047 |
| | R715,R716 (47Ω×4) | ACN7077 |
| | R531,R543,R545,R613 (10kΩ×4) | DCN1094 |
| | R648,R649,R706,R707 (10kΩ×4) | DCN1094 |
| | R748,R751 (10kΩ×4) | DCN1094 |
| | R121,R532,R732,R736 (22Ω×4) | DCN1104 |
| | R785,R786,R818-R820 (22Ω×4) | DCN1104 |
| | R825,R848,R849 (22Ω×4) | DCN1104 |
| | R1020,R162,R2010,R2020,R2030 | RS1/10S0R0J |
| | R2040,R3050,R3520,R506,R510 | RS1/10S0R0J |
| | R520,R601,R701,R801,R8410 | RS1/10S0R0J |
| | R9220,R9230,R9240,R925-R948 | RS1/10S0R0J |
| | R952-R958,R960,R964 | RS1/10S0R0J |
| | R361,R364 | RS1/16S1203F |
| | R363,R365 | RS1/16S1503F |
| | R164 | RS1/16S5600F |
| | R3510 | VCN1120 |
| | Other Resistors | RS1/16S□□□J |

## OTHERS

| | | |
|---|---|---|
| X601 | CHIP CERALOCK(20MHz) | DSS1110 |
| | FLEXIBLE CABLE (7P) | VDA1681 |
| CN106 | 7P FFC CONNECTOR | VKN1299 |
| CN201 | B TO B CONNECTOR 14P | VKN1324 |
| CN120 | 24P FFC CONNECTOR | VKN1464 |
| CN1030 | 12P FFC CONNECTOR | VKN1471 |
| CN602,CN901 | 15P FFC CONNECTOR | VKN1474 |
| CN110 | 26P FFC CONNECTOR | VKN1479 |
| CN802 | B TO B CONNECTOR 40P | VKN1529 |
| CN905 | 29P FFC CONNECTOR | VKN1585 |
| | BARCODE LABEL | VRW1773 |
| X21 | CRYSTAL RESONATOR (13.824MHz) | VSS1129 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## F VQEB ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC102 | MB811171622A-100FN |
| | IC101 | PM0023AF |
| | IC105,IC106 | TC7SH14FU |
| | Q531,Q532,Q541,Q542 | 2PB709A |
| | Q551,Q552 | 2PB709A |

### COILS AND FILTERS

| | | |
|---|---|---|
| | F102 | VTF1155 |
| | L101 | VTL1067 |

### CAPACITORS

| | | |
|---|---|---|
| | C130 | CCSRCH102J50 |
| | C101,C120 | CEV101M16 |
| | C110-C119,C121-C126,C150 | CKSRYB104K16 |
| | C160,C532,C542,C552 | CKSRYB104K16 |
| | C201,C202 | VCG1031 |

### RESISTORS

| | | |
|---|---|---|
| | R105,R106,R404,R405 (22Ω×4) | DCN1104 |
| | R12,R201,R409,R418,R419 | RS1/10S0R0J |
| | R501 | RS1/10S0R0J |
| | R122 | RS1/10S2701F |
| | R532,R542,R552 | RS1/16S3300F |
| | R534,R544,R554 | RS1/16S4700F |
| | Other Resistors | RS1/16S□□□J |

### OTHERS

| | | |
|---|---|---|
| | CN101 B TO B CONNECTOR 40P | VKN1530 |

## G JCKB ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC101,IC201,IC222,IC351 | BA4560F |
| | IC801 | LA7135AM |
| | IC301 | NJM5532MD |
| ⚠ | IC999 | NJM78M08FA |
| | IC262 | TC4W53F |
| | IC901 | TC74HCU04AF |
| | IC404,IC405,IC666 | TC74VHC157FT |
| | IC505,IC555,IC902 | TC7SET08F |
| | IC540 | TC7W53FU |
| | IC401 | UDA1328T/S1 |
| | IC501 | YSS912C |
| | Q193,Q293,Q361,Q371,Q383 | 2PB709A |
| | Q395 | 2PB709A |
| | Q715,Q716,Q996 | 2PD601A |
| ⚠ | Q999 | 2SB1260 |
| | Q345,Q705,Q706,Q805,Q806 | 2SC1740S |
| | Q191,Q192,Q291,Q292 | 2SD2114K |
| | Q381,Q382,Q391-Q394 | 2SD2114K |
| | Q194,Q261,Q294,Q365,Q384 | PDTC124EK |
| | Q396,Q666 | PDTC124EK |
| | D298,D398,D944 | 1SS355 |
| | D222,D351 | UDZS6.2B |

| Mark | No. | Description | Part No. |
|---|---|---|---|

### COILS AND FILTERS

| | | |
|---|---|---|
| | L901 | PTL1003 |
| | L906 | RTF1167 |
| | F404-F406,F421,F501,F505 | VTF1096 |
| | F511,F521,F531,F540,F541 | VTF1096 |
| | F551,F555,F571,F581,F591 | VTF1096 |
| | F601,F901,F902,F910 | VTF1096 |

### SWITCH

| | | |
|---|---|---|
| | S601 | VSH1009 |

### CAPACITORS

| | | |
|---|---|---|
| | C669,C883 | CCSQCH101J50 |
| | C508,C509 | CCSQCH200J50 |
| | C107,C207,C217 | CCSQCH221J50 |
| | C106,C206,C216,C327,C328 | CCSQCH330J50 |
| | C337,C338 | CCSQCH330J50 |
| | C101,C201,C211,C301,C311 | CCSQCH331J50 |
| | C321,C322,C331,C332 | CCSQCH331J50 |
| | C518 | CCSQCH471J50 |
| | C340,C349 | CCSQCH680J50 |
| | C103,C203,C213 | CEAT100M50 |
| | C108,C113,C117,C118,C208 | CEAT101M10 |
| | C218,C422,C433,C460,C502 | CEAT101M10 |
| | C512,C522,C532,C542,C552 | CEAT101M10 |
| | C572,C582,C821,C880,C890 | CEAT101M10 |
| | C903,C906,C911 | CEAT101M10 |
| | C224,C344,C354 | CEAT101M16 |
| | C691,C703,C803 | CEAT102M6R3 |
| | C226 | CEAT1R0M50 |
| | C345 | CEAT221M16 |
| | C221,C352 | CEAT470M16 |
| | C693,C696 | CEAT471M6R3 |
| | C324,C334 | CEBA101M25 |
| | C227,C229 | CFTYA104J50 |
| | C719 | CKSQYB103K50 |
| | C713,C714,C811,C833,C866 | CKSQYB104K25 |
| | C111 | CKSQYB105K10 |
| | C116 | CKSQYB473K50 |
| | C115,C215,C222,C223,C261 | CKSQYF104Z25 |
| | C335,C341-C343,C351,C353 | CKSQYF104Z25 |
| | C355,C412,C430,C444,C455 | CKSQYF104Z25 |
| | C466,C500,C501,C503,C505 | CKSQYF104Z25 |
| | C511,C513,C521,C523,C531 | CKSQYF104Z25 |
| | C533,C540,C541,C543,C551 | CKSQYF104Z25 |
| | C553,C555,C571,C573,C581 | CKSQYF104Z25 |
| | C583,C591,C593,C610,C706 | CKSQYF104Z25 |
| | C806,C808,C809,C820 | CKSQYF104Z25 |
| | C901,C902,C904,C905,C908 | CKSQYF104Z25 |
| | C910,C912,C940,C966,C996 | CKSQYF104Z25 |
| | C999 | CKSQYF104Z25 |
| | C404-C406,C421,C600 | CKSQYF105Z16 |
| | C628,C629,C666,C992,C993 | CKSQYF105Z16 |

### RESISTORS

| | | |
|---|---|---|
| | R692,R694,R697 | RN1/10SC62R0D |
| | R701,R702,R711,R712 | RN1/10SC68R0D |
| | R801,R802 | RN1/10SC68R0D |
| | R108,R208,R218,R226 | RN1/10SE1602D |
| | R341-R348 | RN1/10SE2202D |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | R106,R206,R216,R229 | | RN1/10SE3302D |
| | R327,R328,R337,R338 | | RN1/10SE4702D |
| | R223-R225,R227 | | RN1/10SE5602D |
| | R116 | | RN1/10SE6801D |
| | R228 | | RN1/10SK1103D |
| | Other Resistors | | RS1/10S□□□J |

### OTHERS

| | | |
|---|---|---|
| JA701 | 4P MINI DIN SOCKET | AKP7116 |
| JA901 | OPTICAL LINK OUT | GP1F32T |
| JA903,JA904 | REMOTE CONTROL JACK | PKN1004 |
| JA902 | 1P PIN JACK(AU,BLK) | VKB1074 |
| JA601 | 3P PIN JACK | VKB1112 |
| JA801 | 2P PIN JACK | VKB1123 |
| JA101 | 4P PIN JACK | VKB1125 |
| JA301 | 6P PIN JACK | VKB1129 |
| CN999 | 15P FFC CONNECTOR | VKN1246 |
| CN666 | 29P FFC CONNECTOR | VKN1260 |
| KN101,KN102,KN901,KN999 | EARTH METAL FITTING | VNF1084 |
| | PC BOARD JCKB | VNP1707 |
| X500 | CRYSTAL RESONATOR (12.288MHz) | VSS1140 |

## H FLKY ASSY

### SEMICONDUCTORS

| | |
|---|---|
| IC101 | PE5141A |
| IC102 | S-806D |
| Q101 | DTD113ES |
| Q102 | PDTC124EK |
| D105 | SLR-343DC(MNP) |
| D103,D104 | SLR-343YC(MNP) |

### SWITCHES

| | |
|---|---|
| S101-S106 | ASG7013 |

### CAPACITORS

| | |
|---|---|
| C101,C105 | CEJA470M6R3 |
| C108,C110-C113,C122 | CKSQYB102K50 |
| C102,C106,C114-C116 | CKSQYF104Z25 |
| C119,C120,C170 | CKSQYF104Z25 |

### RESISTORS

| | |
|---|---|
| All Resistors | RS1/10S□□□J |

### OTHERS

| | | |
|---|---|---|
| CN103 | FJ CONNECTOR 4P | 04R-FJ |
| CN102 | FJ CONNECTOR 6P | 06R-FJ |
| IR101 | REMOTE RECEIVER UNIT | GP1U28X |
| V101 | FL TUBE | VAW1050 |
| | SPACER | VEC1599 |
| CN101 | 15P FFC CONNECTOR | VKN1275 |
| | FL HOLDER | VNF1087 |
| X101 | CERAMIC RESONATOR (5MHz) | VSS1142 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## I PWSB ASSY

### SWITCHES

| | |
|---|---|
| S201-S209 | ASG7013 |

### RESISTORS

| | |
|---|---|
| All Resistors | RS1/10S□□□J |

### OTHERS

| | | |
|---|---|---|
| CN201 | FJ CONNECTOR 6P | 06PL-FJ |

## J DILB ASSY

### SEMICONDUCTOR

| | |
|---|---|
| D301 | MA111 |

### OTHERS

| | | |
|---|---|---|
| CN301 | FJ CONNECTOR 4P | 04P-FJ |
| PL301 | LAMP (DVD ILLUM) | VEL1022 |

## K SCRB ASSY

### SEMICONDUCTORS

| | |
|---|---|
| IC1 | TC4W53F |
| IC2 | TK15402M |
| Q2 | 2PB709A |
| Q1,Q3 | 2PD601A |
| Q5 | 2SA933S |
| Q8,Q9 | 2SC1740S |
| Q10,Q4,Q6,Q7 | PDTC124EK |
| D3 | MA111 |
| D1,D2 | UDZS5.1B |

### CAPACITORS

| | |
|---|---|
| C1,C3,C33-C35 | CEAT101M10 |
| C39 | CEAT471M10 |
| C12,C2,C27-C31 | CKSQYF104Z25 |
| C36-C38,C40,C44 | CKSQYF104Z25 |
| C7,C8 | CKSQYF104Z25 |

### RESISTORS

| | |
|---|---|
| R13,R28,R40-R42 | RN1/10SC68R0D |
| R58,R59,R62 | RS1/10S1001F |
| R55,R60,R61 | RS1/10S2201F |
| R56,R63,R64 | RS1/10S8200F |
| Other Resistors | RS1/10S□□□J |

### OTHERS

| | | |
|---|---|---|
| | PCB BINDER | VEF1040 |
| JA1 | RGB CONNECTOR | VKB1127 |
| CN2 | 7P FFC CONNECTOR | VKN1238 |
| CN1 | 12P FFC CONNECTOR | VKN1243 |
| | PC BOARD SCRB | VNP1723 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## L POWER SUPPLY ASSY (VWR1316) (FOR KU AND KC TYPES)

### SEMICONDUCTORS

| | | | |
|---|---|---|---|
| ⚠ | IC201,IC801 | | AN1431T |
| ⚠ | IC311 | | VZF1078 |
| ⚠ | IC411 | | VZF1074 |
| ⚠ | Q101,Q103 | | VZF1062 |
| ⚠ | Q102 | | 2SC3377 |
| ⚠ | Q104 | | 2SC1740S |
| ⚠ | D102 | | EG01C |
| ⚠ | D213 | | MTZJ15B |
| ⚠ | D104 | | MTZJ2.4B |
| ⚠ | D812 | | MTZJ6.8B |
| ⚠ | D513 | | MTZJ8.2B |
| ⚠ | D101 | | VZF1044 |
| ⚠ | D108 | | VZF1045 |
| ⚠ | D811 | | VZF1054 |
| ⚠ | D211,D711 | | VZF1065 |
| ⚠ | D411 | | VZF1075 |
| ⚠ | D311 | | VZF1076 |
| ⚠ | D103 | | VZF1077 |
| ⚠ | D105,D107,D110 | | 1SS270A |
| ⚠ | D511 | | 10ELS2 |
| ⚠ | D106,D109,D151 | | VZF1071 |

### RESISTORS

| | | | |
|---|---|---|---|
| ⚠ | R511 (33Ω) | | VZC1057 |
| ⚠ | R611 | | VZC1060 |
| ⚠ | R711 (0.51Ω, 1/2W) | | VZC1061 |

### OTHERS

| | | | |
|---|---|---|---|
| ⚠ | F101 | FUSE (2A/125V) | REK1078 |
| ⚠ | P211 | FUSE (1A/60V) | VEK1041 |

## L POWER SUPPLY ASSY (VWR1314) (FOR WY AND WV TYPES)

### SEMICONDUCTORS

| | | | |
|---|---|---|---|
| ⚠ | IC201,IC801 | | AN1431T |
| ⚠ | IC311 | | VZF1078 |
| ⚠ | IC411 | | VZF1074 |
| ⚠ | Q101,Q103 | | VZF1062 |
| ⚠ | Q102 | | 2SC3377 |
| ⚠ | Q104 | | 2SC1740S |
| ⚠ | D102 | | EG01C |
| ⚠ | D213 | | MTZJ15B |
| ⚠ | D104 | | MTZJ2.4B |
| ⚠ | D812 | | MTZJ6.8B |
| ⚠ | D513 | | MTZJ8.2B |
| ⚠ | D101 | | VZF1044 |
| ⚠ | D108 | | VZF1045 |
| ⚠ | D811 | | VZF1054 |
| ⚠ | D211,D711 | | VZF1065 |
| ⚠ | D411 | | VZF1075 |
| ⚠ | D311 | | VZF1076 |
| ⚠ | D103 | | VZF1077 |
| ⚠ | D105,D107,D110 | | 1SS270A |
| ⚠ | D511 | | 10ELS2 |
| ⚠ | D106,D109,D151 | | VZF1071 |

### RESISTORS

| | | | |
|---|---|---|---|
| ⚠ | R511 (33Ω) | | VZC1057 |
| ⚠ | R611 | | VZC1060 |
| ⚠ | R711 (0.51Ω, 1/2W) | | VZC1061 |

### OTHERS

| | | | |
|---|---|---|---|
| | F101 | FUSE (2A/250V) | VEK1049 |
| | P211 | FUSE (1A/60V) | VEK1041 |

## M MSWB ASSY (WY AND WV TYPES ONLY)

### SWITCH

| | | | |
|---|---|---|---|
| ⚠ | S1000 | | ASG1006 |

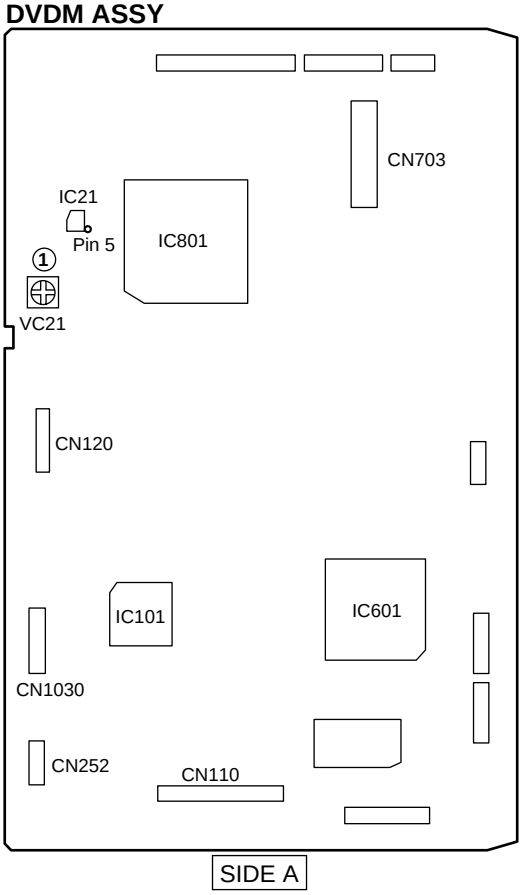
# 6. ADJUSTMENT

## 6.1 ADJUSTMENT ITEMS AND LOCATION

**Note :** When the Traverse mechanism adjustment is prnot operly adjusted, jitter, error rate and play ability are defective. The noise may come out by the case.

■ **Adjustment Points (PCB Part)**

**DVDM ASSY**

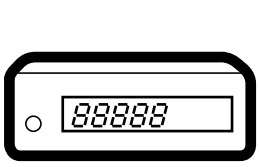



■ **Adjustment Items**

[Electrical Part]

① Master Clock Adjustment

## 6.2 JIGS AND MEASURING INSTRUMENTS



Frequency counter
Display digit ≥ 8-digit

⊖ Screwdriver (small)

## 6.3 NECESSARY ADJUSTMENT POINTS

When → Adjustment Points

■ **EXCHANGE PCB ASSY**

Exchange board
JCKB ASSY

→ **Mechanical point** _____

→ **Electric point** _____

Exchange board
DVDM ASSY

→ **Mechanical point** _____

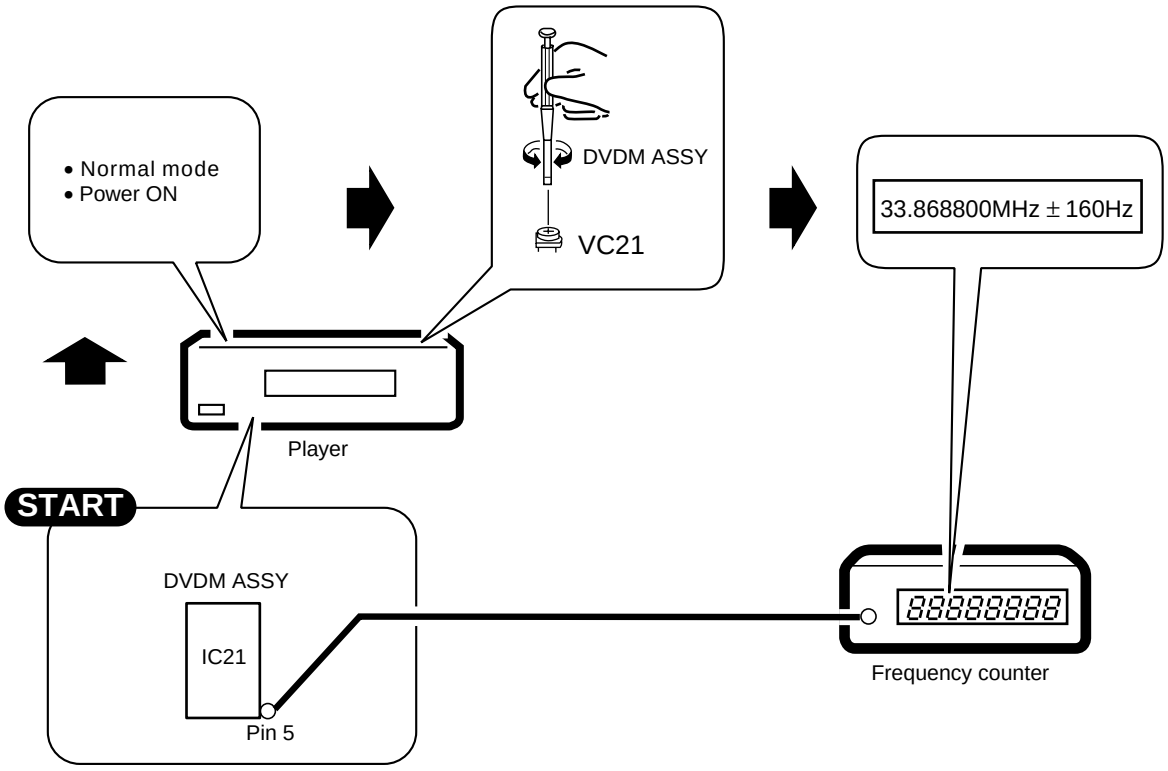
→ **Electric point** _____

Note : ① is adjusted already.

## 6.4 ELECTRICAL ADJUSTMENT

### ① Master Clock Adjustment

• When not properly adjusted : Uneven color



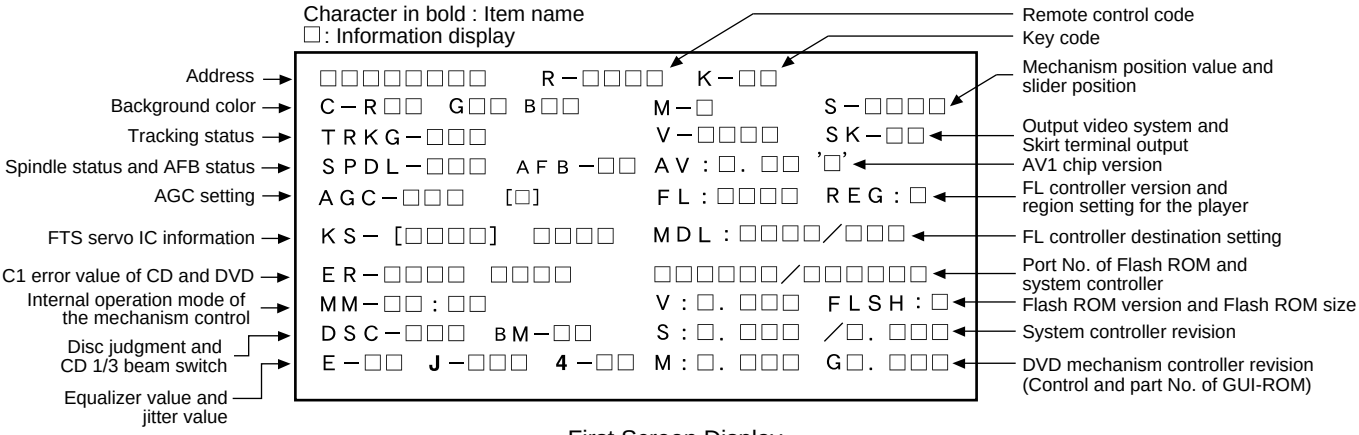
# 7. GENERAL INFORMATION

## 7.1 DIAGNOSIS

### 7.1.1 TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

**• Screen Composition**


Character in bold : Item name
□: Information display
Address
Background color
Tracking status
Spindle status and AFB status
AGC setting
FTS servo IC information
C1 error value of CD and DVD
Internal operation mode of the mechanism control
Disc judgment and CD 1/3 beam switch
Equalizer value and jitter value
□□□□□□□□ R－□□□□ K－□□
C－R□□ G□□ B□□ M－□ S－□□□□
TRKG－□□□ V－□□□□ SK－□□
SPDL－□□□ AFB－□□ AV：□. □□ '□'
AGC－□□□ [□] FL：□□□□ REG：□
KS－ [□□□□] □□□□ MDL：□□□□／□□□
ER－□□□□ □□□□ □□□□□□／□□□□□□
MM－□□：□□ V：□. □□□ FLSH：□
DSC－□□□ BM－□□ S：□. □□□ ／□. □□□
E－□□ J－□□□ 4－□□ M：□. □□□ G□. □□□
Remote control code
Key code
Mechanism position value and slider position
Output video system and Skirt terminal output
AV1 chip version
FL controller version and region setting for the player
FL controller destination setting
Port No. of Flash ROM and system controller
Flash ROM version and Flash ROM size
System controller revision
DVD mechanism controller revision (Control and part No. of GUI-ROM)

First Screen Display

**Caution :**
The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.
It is only a version display part on the lower right of the screen those contents of display change.
ATB : ON/OFF information display and AGC manual setting display deleted with the second generation.
The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted with the third generation becomes LD part is deleted.

## • Description of Each Item on the Display

### (1) Address indication

The address being traced is displayed in number.

DVD : ID indication (hexadecimal number, 8 digits) [ * * * * * * * * ]
CD : A-TIME (min. sec.) [ 0 0 0 0 * * * * ]

(Note : For DVDs, decimal-number indication is possible.)

### (2) Code indication of the remote control unit [R – * * * *]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

### (3) Key code indication for the main unit [K – * * ]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

### (4) Background color indication [C – R* * G* * B* *]

### (5) Tracking status [TRKG – ***]

| | |
|---|---|
| Tracking on | [ON ] |
| Tracking off | [OFF] |

### (6) ① Spindle status [SPDL – * * *]

| | |
|---|---|
| Spindle accelerator and brake, free-runnimg | [A/B] |
| FG servo | [FG] |
| Rough, velocity phase servo | [SRV] |
| Offset addition, rough, velocity phase servo | [O_S] |

### ② AFB status [AFB – * *]

| | |
|---|---|
| ON | [ON ] |
| OFF | [OFF] |

### (7) Mechanism position value [M – *]

| | |
|---|---|
| Position code | [1] to [3] |

### (8) Slider position [S – * * * *]

| | |
|---|---|
| CD TOC area | [IN ] |
| CD active area | [CD ] |

### (9) AGC setting [AGC – * *]

| | |
|---|---|
| AGC on | [AGC-ON] |
| AGC off | [AGC-OFF] |

### (10) Output video system [V – ∗ ∗ ∗ ∗]

| | |
|---|---|
| NTSC system | [NTSC] |
| PAL system | [PAL ] |
| Auto-setting | [AUTO] |

**Skirt terminal output [SK – ∗ ∗]**

| | |
|---|---|
| VIDEO | [00] |
| S-VIDEO | [01] |
| RGB | [02] |

∗ : Display only the model which can do the output setting of skirt terminal.

### (11) FTS servo IC information

DSP coefficient indication [KS – [∗ ∗ ∗ ∗] ∗ ∗ ∗ ∗ ]
Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

### (12) Error rate indication

① C1 error value of CD [ER – C1 ∗ ∗ ∗ ∗ ]
② C1 error value of DVD [ER – ∗ ∗ ∗ ∗ ∗ ∗ ∗ ∗ ]

### (13) Internal operation mode of mechanism controller [MM – ∗ ∗ : ∗ ∗]

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

### (14) ① Disk sensing [DSC – ∗ ∗ ∗]

The type of discs loaded is displayed.
[DVD], [CD ], [VCD], [ ]

### ② CD 1/3 beam switch [BM – ∗ ∗]

### (15) ① Equalizer value [E – ∗ ∗]

### ② Jitter value [J – ∗ ∗]

nake the jitter four times, and renew it in every one second.
[4 – ∗ ∗]
CD is effective only in the jitter value.

### (16) Version of the AV-1 chip [ AV : ∗ . ∗ ∗' ∗' ]

### (17) ① Version of the FL controller [FL : ∗ ∗ ∗ ∗]

### ② Region setting of the player [REG : ∗ ]

Setting value [1] to [6]

### (18) Destination setting of the FL controller [MDL : ∗ ∗ ∗ ∗ / ∗ ∗ ∗ ]

For charactors in front represent the type of model :
There charactors that follow represent the destination code.
J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB,
WY : /WY

### (19) The part number of the flash ROM and system controller [∗ ∗ ∗ ∗ ∗ ∗ / ∗ ∗ ∗ ∗ ∗ ∗ ∗ ]

① Part number of the flash ROM <Front>
(Example) VYW1536-A → W1536A
(Example) PD6256A9 → 6256A9
② Part number of the system controller <Rear>
(Example) PD3381T1 → 3381T1

### (20) ① Version of the flash ROM [V : ∗ . ∗ ∗ ∗]

### ② Flash ROM size [FLSH = ∗]

### (21) Revision of the system controller [S : ∗ . ∗ ∗ ∗ / ∗ . ∗ ∗ ]

① Revision number of the external ROM part (flash ROM) of the system controller <Front>
② Revision of the internal ROM part of the system controller <Rear>

### (22) Revision of the DVD mechanism controller [M : ∗ . ∗ ∗ ∗ ]

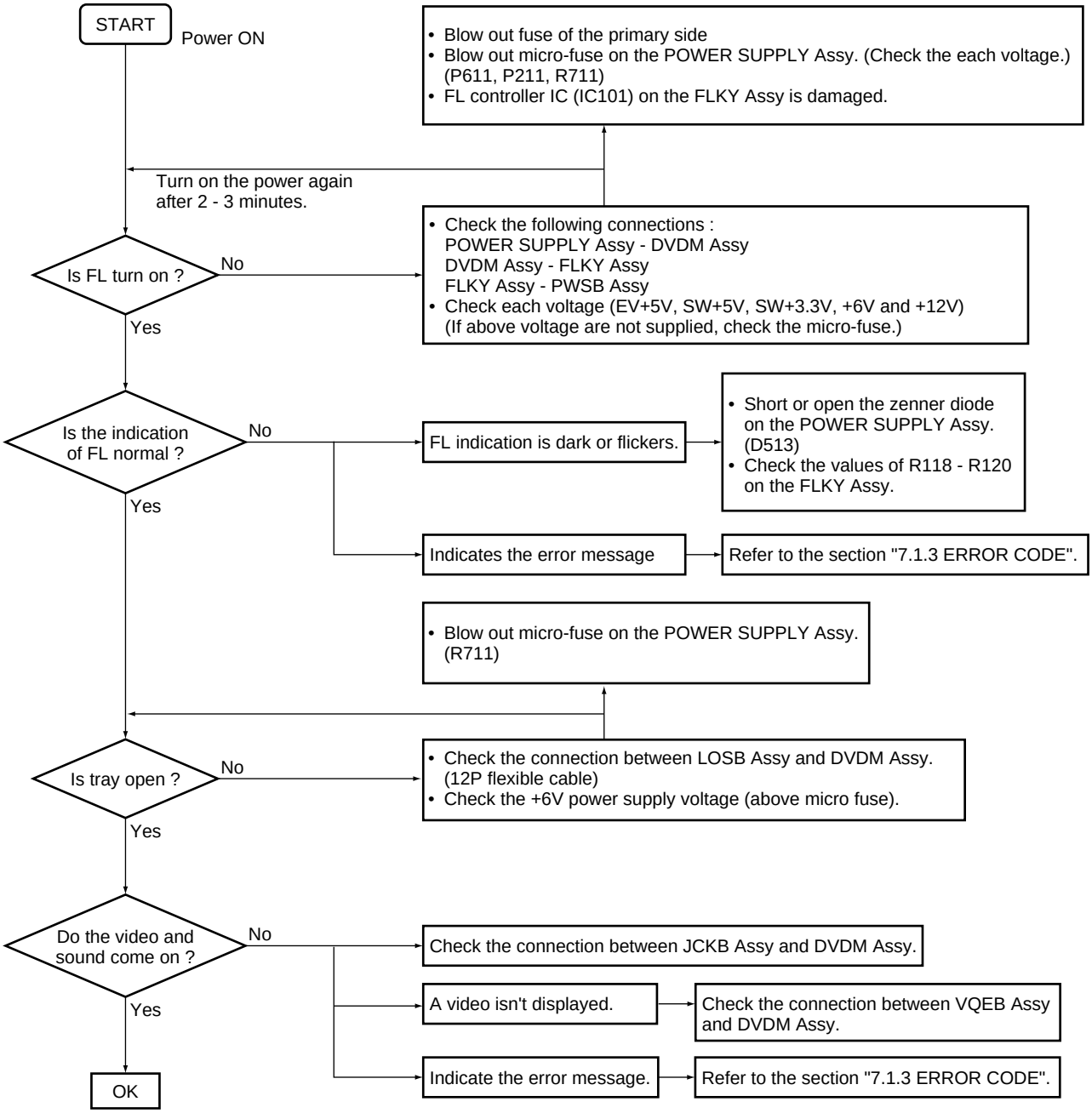
Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

### (23) Control and part numbers of the GUI-ROM [GUI : ∗ ∗ ∗ ∗ ]

No GUI model displays as "—— / ——".
OEM model displays the part number of GUI-ROM [GUI : ∗ ∗ ∗ ∗]

## 7.1.2 TROUBLE SHOOTING

- No Power ON
- FL is not turned ON
- FL indication is unusual


START
Power ON
• Blow out fuse of the primary side
• Blow out micro-fuse on the POWER SUPPLY Assy. (Check the each voltage.) (P611, P211, R711)
• FL controller IC (IC101) on the FLKY Assy is damaged.
Turn on the power again after 2 - 3 minutes.
Is FL turn on ?
No
• Check the following connections : POWER SUPPLY Assy - DVDM Assy DVDM Assy - FLKY Assy FLKY Assy - PWSB Assy
• Check each voltage (EV+5V, SW+5V, SW+3.3V, +6V and +12V) (If above voltage are not supplied, check the micro-fuse.)
Yes
Is the indication of FL normal ?
No
FL indication is dark or flickers.
• Short or open the zenner diode on the POWER SUPPLY Assy. (D513)
• Check the values of R118 - R120 on the FLKY Assy.
Yes
Indicates the error message
Refer to the section "7.1.3 ERROR CODE".
• Blow out micro-fuse on the POWER SUPPLY Assy. (R711)
Is tray open ?
No
• Check the connection between LOSB Assy and DVDM Assy. (12P flexible cable)
• Check the +6V power supply voltage (above micro fuse).
Yes
Do the video and sound come on ?
No
Check the connection between JCKB Assy and DVDM Assy.
A video isn't displayed.
Check the connection between VQEB Assy and DVDM Assy.
Indicate the error message.
Refer to the section "7.1.3 ERROR CODE".
Yes
OK

## 7.1.3 ERROR CODE

**Error codes that are displayed on the FL display without using the remote control unit**

| FL Display | Possible causes | Operation of the unit |
|---|---|---|
| AV1 VER | AV-1 chip is not a match with the program of system controller | The sound may not out with the specific audio. |
| CPU AERR | CPU address error (Hardware is unusual.) | No operation |
| DMA AERR | DMA address error (Hardware is unusual.) | No operation |
| FLASH ID | Difference in versions of the internal ROM of the system controller and of the flash ROM, or bus line failure or reverse installation | No operation |
| FLASH WRP | Write protect error of the flash ROM | No operation |
| FLASH SIG | Difference in part number of the flash ROM (When the ROM which could't be used was used.) | No operation |
| FLASH SUM | Check sum error of the flash ROM (It exceeds the regular size.) or reverse installation (Hardware is unusual.) | No operation |
| FLASH SIZE | Size error of the flash ROM (Use 4 or 8 M-bit.) | No operation |
| ILLGAL | The system controller fetched a code other than an operation code (Hardware is unusual.) | No operation |
| RESERVE | Undefined interrupt (Hardware is unusual.) | No operation |
| SLOT | Inappropriate slot command issued (Hardware is unusual.) | No operation |

**Error codes that are displayed on the FL display by using the remote control unit (Mechanism controller error)**
**To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of center of the FL display**
**To display the error history: ESC + DISPLAY + One shot; Location of the display: TV screen**

| FL | Description of Error | Causes if with a DVD | Causes if with a CD | Operation of the Unit |
|---|---|---|---|---|
| 11 | Search timeout | Search could not be complete within 7 seconds. | Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan. | CD : Stops,<br>DVD: Continues operation |
| 12 | Search retry error | A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging. | Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point. | CD: Stops,<br>DVD: Continues operation |
| 19 | Tracing timeout while converging | Timeout (10.5 seconds) while tracing at the stage of convergence of a search. | | Stop |
| 1B | Index 0 search error | | During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed. | Stop |
| 22 | Timeout of slider inner circumference | Inside switch could not ON within 3 seconds. | | Stop |
| 23 | Timeout of slider outer circumference | Inside switch could not OFF within 2 seconds. | | Stop |
| 33 | No FOK pulse during playback CLVA | When the focus was deviated continuously 20 times. | | Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times),then opens.<br>If the same error persists after one retry, the tray opens. (No FOK pulse) |
| 38 | Disc-type-sensing error | If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occure excepting C5 error. However, when the focus error "33" was occured continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type. | | Open |

| FL | Description of Error | Causes if with a DVD | Causes if with a CD | Operation of the Unit |
|---|---|---|---|---|
| 39 | SGC converge timeout | SGC could not converge during detects the peak | | Open |
| 41 | Spindle timeout | The unit did not enter Stop mode within 10 seconds of issuance of a Stop command. | | Stop |
| 48 | Spindle FG transition timeout | The spindle could not converge into within ± 12% of the target FG rotation speed within 10 seconds after spindle kick.<br>The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds.<br>The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops.<br>DVD: 5 to 9 mS , CD: 40 to 60 mS | | Stops. (FG timeout) |
| 49 | Spindle PLL transition timeout | After the second times after startup, it doesn't become the number of the target rotation within five seconds.<br>Detects the abnormal high-speed or low-speed rotations.<br>DVD: 5 to 9 mS , CD: 40 to 60 mS | | Stops.<br>("73" is displayed during starting process.) |
| 4A | Spindle lock timeout | Spindle could not lock more than 1.5 seconds before start the AFB. | | Stops.<br>("73" is displayed during starting process.) |
| 51 | Auto sequence timeout of peak detection | ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent. | | Stop |
| 52 | Auto sequence timeout of focus jump down | ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent. | | Stop |
| 53 | Auto sequence timeout of focus jump up | ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent. | | Stop |
| 54 | Auto sequence timeout of play AGC | ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent. | | Stop |
| 55 | Auto sequence timeout of disc-type-sensing | ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent. | | Stop |
| 56 | Auto sequence timeout of ATB2 | ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent. | | Stop |
| 57 | Auto sequence timeout of tracking servo ON | ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent. | | Stop |
| 58 | Auto sequence timeout of ATB1 | ABUSY did not return within 200 mS after the TBL (external ATB) command was sent. | | Stop |
| 59 | Auto sequence timeout of focus gain adjustment | ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent. | | Stop |
| 5A | Auto sequence timeout of tracking gain adjustment | ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent. | | Stop |
| 5B | Auto sequence timeout of offset adjustment | ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent. | | Stop |
| 5C | Auto sequence timeout of modulation factor measurement | ABUSY did not return within 200 mS after the ADJMIR (modulation factor measurement) command was sent. | | Stop |
| 5D | Auto sequence timeout of auto focus bias | ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent. | | Stop |
| 5F | Auto sequence already busy | A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent. | | Stop |
| 62 | Pause retry error | Pause mode could not be restored within three retries after it had been released. | | Continues operation |

| FL | Description of Error | Causes if with a DVD | Causes if with a CD | Operation of the Unit |
|---|---|---|---|---|
| 71 | ID can not read during tracing | An ID could not be read for 1 second or more. | | Stop |
| 72 | Subcode check failure during playback | | No frame could be read for 3 seconds or more. | Stop |
| 73 | ID can not read at the startup | An ID could not be read within 1 second after the AFB adjustment had been finished. | | Opens (ID readout failure) |
| 74 | Subcode check failure during startup | | No subcode could be read within 3 seconds after AFB adjustment had been finished. | Opens (Subcode readout failure). |
| 81 | Timeout for reading TOC of the mechanism controller | | TOC readout took 30 seconds or more. | Stop |
| 82 | Timeout for reading TOC of the system controller | | Reading TOC of the system controller took 30 seconds or more. | Stop |
| A1 | Communication timeout of DSP command | A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 µS). | | No operation |
| A2 | Communication timeout for reading DSP coefficient | Command Busy (XCBUSY) was in force for a specified time (about 200 µS) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address. | | No operation |
| A3 | Communication timeout for writing DSP coefficient | Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP. | | No operation |
| A4 | Communication timeout for continuously writing DSP coefficient | Command Busy (XCBUSY) was in force for 200 µS during continuous coefficient writing, or before and after a continuous write command was issued to DSP. | | No operation |
| B1 | Timeout error for backup | In the tracing state during the backup sequence, codes could not be read for 1 second or more.<br>In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued. | | Stops |
| B2 | Retry error for backup | Tracing impossible after retring the tracking ON for 3 times in the backup sequence. | | Stops |
| B3 | Retry error for trace | During tracing, runaway was detected after three iterations of backup operations for detecting runaway. | | Stops |
| C3 | Detection of tracking overcurrent | During playback, the overcurrent detection port was at L for 300 ms or more continuously. | | Stops (the mechanical controller operates independently). |
| (C5) | Short-circuit test corresponding error | While the power was on, the overcurrent detection port was at L for 40 ms or more continuously. | | Turns off the power instantly (No indication on the FL display and no writing to flash memory) |
| E3 | Violation against digital copy guard | | | Stops |
| F5 | Tray being pushed | The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force. | | Closes |
| F8 | Loading timeout | Loading, unloading or clamping could not be completed within a specified time (about 5 seconds). | | Reverses the loading direction. It timeout is repeated upon retry, the unit stops. |
| FC | Focus | The following error occured eight times.<br>(1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent.<br>(2) Focus IN sequence was finished, actually focus IN was not completed. | | Stops wherever possible then opens (stops in the case of side B). |

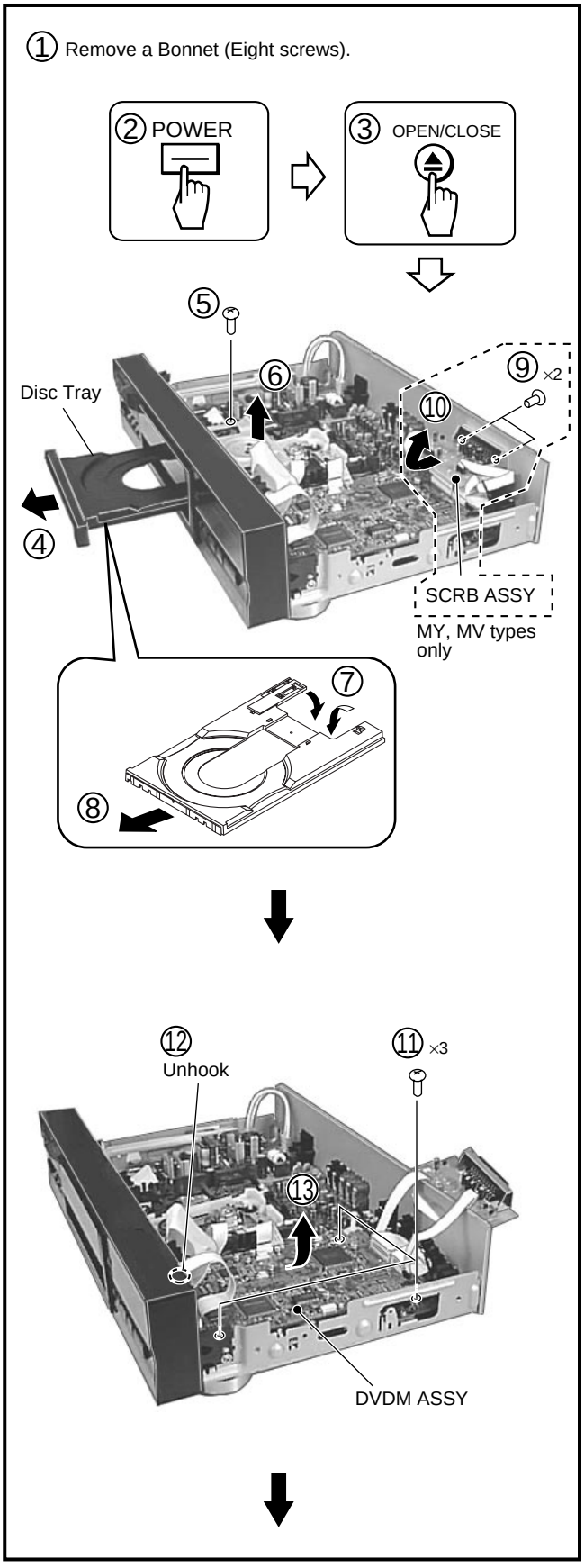
**Error codes that are displayed on the FL display by using the remote control unit (Device error)**

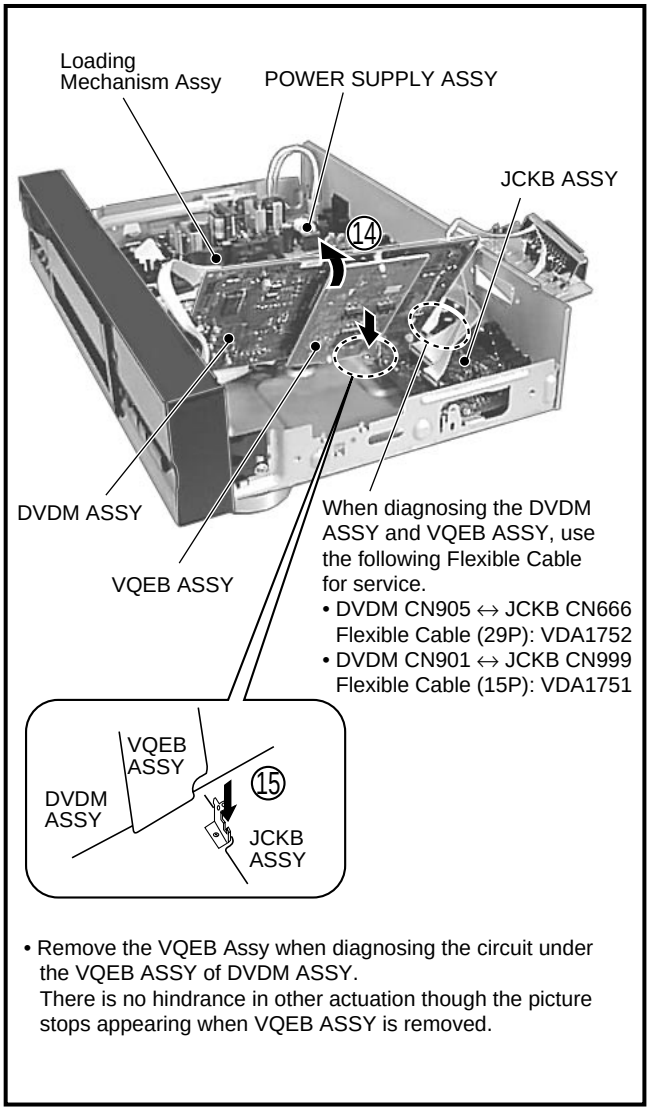
**To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of left of the FL display**

| FL | Description of Error | Causes if with a DVD | Causes if with a CD | Operation of the Unit |
|---|---|---|---|---|
| bit3=1 08 etc. | AV1 access error (read, write NG) | | | No operation or it becomes debugging indication if the power is able to ON. |
| bit2=1 04 etc. | MY CHIP access error | | | |
| bit1=1 01 etc. | SRAM access error | | | |

## 7.1.4 DISASSEMBLY

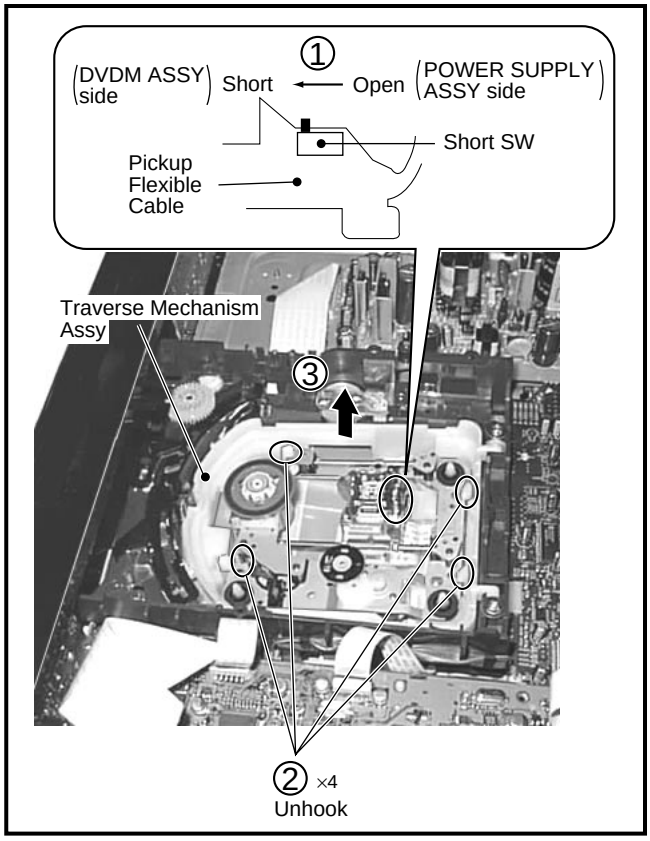
### ■ DVDM ASSY





Loading Mechanism Assy
POWER SUPPLY ASSY
JCKB ASSY
⑭
DVDM ASSY
VQEB ASSY
When diagnosing the DVDM ASSY and VQEB ASSY, use the following Flexible Cable for service.
• DVDM CN905 ↔ JCKB CN666 Flexible Cable (29P): VDA1752
• DVDM CN901 ↔ JCKB CN999 Flexible Cable (15P): VDA1751
VQEB ASSY
DVDM ASSY
⑮
JCKB ASSY

• Remove the VQEB Assy when diagnosing the circuit under the VQEB ASSY of DVDM ASSY.
There is no hindrance in other actuation though the picture stops appearing when VQEB ASSY is removed.

## ■ TRAVERSE MECHANISM ASSY-S




# 7.2 PARTS

## 7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

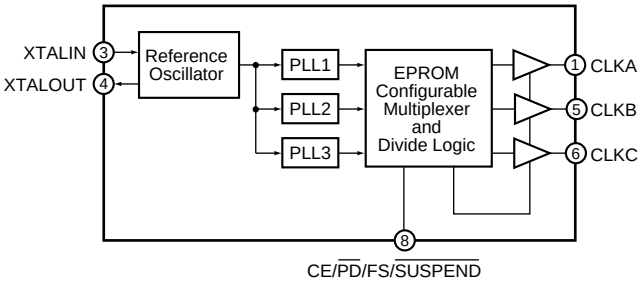
**●List of IC**

CY2081SL-655, PD3410A, VYW1646, M65773FP, LC89051V, YSS912C, PM0023AF

## ■ CY2081SL-655 (DVDM ASSY : IC21)

**• Clock Generate IC**

**● Block Diagram**




**● Pin Function**

| No. | Pin Name | Pin Function |
|---|---|---|
| 1 | CLKA | Configurable clock output |
| 2 | GND | Ground |
| 3 | XTALIN | Reference crystal input of external reference clock input |
| 4 | XTALOUT | Reference crystal feedback |
| 5 | CLKB | Configurable clock output |
| 6 | CLKC | Configurable clock output |
| 7 | VDD | Voltage supply |
| 8 | OE/PD/FS/ SUSPEND | Output control pin; either active-HIGH output enable, active-LOW power down, CLKA frequency select, or active-LOW suspend input |

## ■ PD3410A (DVDM ASSY : IC601)

### • System Control IC

### ● Pin Function

| No. | Mark | Pin Name | I/O | Function |
|---|---|---|---|---|
| 1 | XCS3/XCASL | XCS3 | O | PD4995A (MY CHIP) chip select signal output |
| 2 | GND | GND | – | GND |
| 3 | CK | HCPUCK | O | |
| 4 | VCC | V+3D | – | V+3D |
| 5 | PICLK | – | I/O | N.C. |
| 6 | PIDATA | – | I/O | N.C. |
| 7 | GND | GND | – | GND |
| 8 | PORTH0 | XCSSP0 | O | HC74VHCT595FT (Shift register with output latch) |
| 9 | PORTH1 | 33MVH | O | CY2071ASL-371 (Clock generator) |
| 10 | PORTH2 | 36MVH | O | BU2185F (Clock generator) |
| 11 | PORTH3 | V_SEL2 | O | Composite/S switching signal output of the skirt terminal |
| 12 | VCC | V+3D | – | V+3D |
| 13 | PORTH4 | SCTAON | O | |
| 14 | PORTH5 | 27MVH | O | 27MHz oscillation control circuit |
| 15 | PORTH6 | XCSSPD | O | HC74VHCT595FT (Shift register with output latch) |
| 16 | PORTH7 | XAUDRST/<br>VPOFF/<br>ECHO | O | YSS922 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder)<br>Video system |
| 17 | GND | GND | – | GND |
| 18 | EXTAL | EXTAL | I | Connect a ceramic resonator |
| 19 | XTAL | XTAL | O | |
| 20 | VCC | V+3D | – | V+3D |
| 21 | PORTG0 | XCSDF0 | O | DAC chip select signal output |
| 22 | PORTG1 | XCSDF1/<br>XCSDASP | O | YSS912 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder)<br>AD1853 (3D audio processor)  TC74VHC595FT (Serial/parallel) → SM5847AF (DAC for Mch)<br>YSS922 (DASP) |
| 23 | PORTG2 | XCSDF2/<br>DFRST1/<br>XMIC_ON | O | YSS912 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder)<br>SM5847AF (DAC for Mch) |
| 24 | PORTG3 | HIBSEL | O | PD00236AM |
| 25 | PORTG4 | LFEON/<br>DFRST0 | O | Buffer → Audio amp<br>SM5847AF (DAC for Mch) |
| 26 | GND | GND | – | GND |
| 27 | PORTG5 | 6CHMD/<br>XMAOFF | O | Buffer → Front DAC selector |
| 28 | PORTG6 | DTSMD/<br>XMRST/<br>XDASP | O | SW (Switch circuit) |
| 29 | PORTG7 | XAMUTE/<br>XMUTM | O | Last stage mute signal output of the audio |
| 30 | PORTF0 | 44X48 | O | DAC 44/48 FS switching signal output |
| 31 | PORTF1 | DI_ERR/<br>XDIGIO | I | DIR1700 (Digital audio interface receiver) |
| 32 | PORTF2 | 3DON/<br>XMMUTE/<br>48X44 | O | 3D audio ON/bypass switching signal output |
| 33 | VCC | V+3D | – | V+3D |
| 34 | PORTF3 | XCSADSP0/<br>SYNC1 | O | DSP56362 (Audio DSP) |
| 35 | PORTF4 | XCSADSP1/<br>XAVS_RT/<br>DISC | O | DSP56362 (Audio DSP) |
| 36 | PORTF5 | XCSADSP2/<br>DPOS/ODD | O | DSP56362 (Audio DSP) |

| No. | Mark | Pin Name | I/O | Function |
|---|---|---|---|---|
| 37 | PORTF6 | XVQERST/ XANR | O | Analog NR ON/OFF switching signal output |
| 38 | PORTF7 | XCSVE/ XCSVQE | O | Serial communication enable signal output of the video encoder |
| 39 | GND | GND | – | GND |
| 40 | AVSS | GND | – | GND |
| 41 | AVCC | V+3D | – | V+3D |
| 42 | OUTA_P | LODRV | O | Loading drive output |
| 43 | VREF | V+3D | – | V+3D |
| 44 | OUTB_P | TEI | O | Tracking offset signal output |
| 45 | AVSS | GND | – | GND |
| 46 | AVSS | GND | – | GND |
| 47 | PORTE0 | V_SEL | O | Component/composite switching signal output |
| 48 | PORTE1 | CDGM | I | PDC016A (Graphic IC) |
| 49 | PORTE2 | OEM??? | I | |
| 50 | PORTE3 | FOFST1 | I/O | Focus offset adjustment output 1 |
| 51 | PORTE4 | FOFST2 | I/O | Focus offset adjustment output 2 |
| 52 | PORTE5 | XDFINH | I/O | Defect shunt signal output |
| 53 | PORTE6 | DVD/XCD | O | DVD/CD switching signal output |
| 54 | PORTE7 | LD1_ON | O | 650 nm laser diode ON signal output |
| 55 | PORTD0 | LD2_ON | O | 780 nm laser diode ON signal output |
| 56 | VCC | V+3D | – | V+3D |
| 57 | PORTD1 | DPD/TE | O | 1 beam/3 beams switching signal output |
| 58 | PORTD2 | AGOFF | O | AGC ON/OFF switching signal output of RF IC |
| 59 | PORTD3 | XCD2X | O | Signal output for switching the double speed playback |
| 60 | PORTD4 | OEICG | O | OEIC gain switching signal output |
| 61 | GND | GND | – | GND |
| 62 | PORTD5 | XMON | O | Control output ON/OFF switching output of the spindle motor |
| 63 | PORTD6 | XBCA | O | |
| 64 | PORTD7 | OPEN_SW/ X???RST | I | Mechanism connector |
| 65 | PORTJ0 | XDRVMUT | O | Driver mute output |
| 66 | PORTJ1 | DR/XLD | O | TC7W53F (Analog SW) |
| 67 | PORTJ2 | XDSPRST | O | LC78652W (Servo DSP) |
| 68 | PORTJ3 | MNJACK/ MC_MO | I | Mini jack connection check pin |
| 69 | VCC | V+3D | – | V+3D |
| 70 | PORTJ4 | TM_ENT | I | Test mode input |
| 71 | PORTJ5 | XEXPE | O | TC74VHCT574F/FS (3-state buffer) |
| 72 | PORTJ6 | VSEL_SW | I | Component/composite SW input |
| 73 | PORTJ7 | DQSY | I | |
| 74 | PB0/TIOCA2 | XCBUSY | I | Command busy input |
| 75 | PB1/TIOCB2 | XABUSY | I | Auto-sequence busy input |
| 76 | PB2/TIOCA3 | XINT2/ XAVIRQ2 | I | Interrupt input 2 (AV-1) |
| 77 | VCC | V+3D | – | V+3D |
| 78 | PB3/TIOCB3 | LT1 | O | Communication response signal output to the FL controller |
| 79 | PB4/TIOCA4 | SBSY | I | Subcode block sync. input |
| 80 | XMTEST | – | I | V+3D |
| 81 | XCPUMD | – | I | V+3D |
| 82 | XRES | XRESET | I | Reset input |

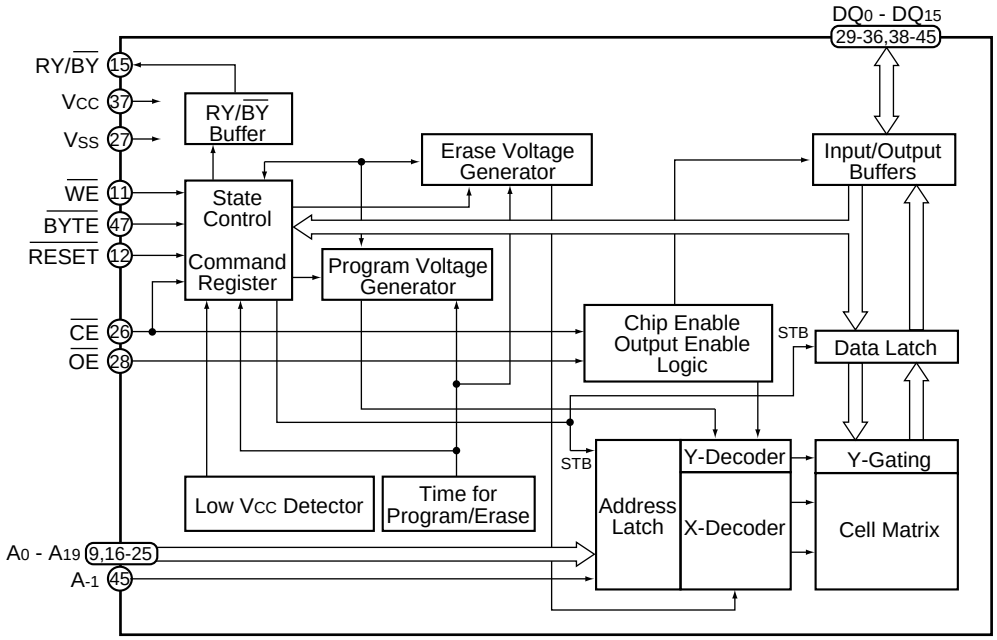
| No. | Mark | Pin Name | I/O | Function |
|---|---|---|---|---|
| 83 | GND | GND | – | GND |
| 84 | AN0 | LODPOS | I | Loading position input |
| 85 | AN1 | SLDPOS | I | Slider position input |
| 86 | AN2 | DOORSW | I | Mecha. connector |
| 87 | AN3 | NAP_SW | I | NTSC/AUTO/PAL SW input |
| 88 | AN4 | | I | |
| 89 | AN5 | | I | |
| 90 | AN6 | | I | |
| 91 | AN7 | 525IP_SW | I | |
| 92 | Avref | V+3D | – | V+3D |
| 93 | AVCC | V+3D | – | V+3D |
| 94 | AVSS | GND | – | GND |
| 95 | PB5/TIOCB4 | DIBLK/HFL/ DCNT2 | I | DIR1700 (Digital audio interface receiver) LC78652W (Servo DSP) |
| 96 | PB6/TIOCXA4/TCLKC | C2F | I | C2 error input |
| 97 | PB7/TIOCXB4/TCLKD | XRDY | I | Communicatio request input from the FL controller |
| 98 | PB8/RxD0 | SSI | I | Serial data input (FL controller) |
| 99 | PB9/TxD0 | SSO | O | Serial data output (FL controller, DAC) |
| 100 | VCC | V+3D | – | V+3D |
| 101 | PB10/RxD1 | RXD | I | Data input of the RS-232C |
| 102 | PB11/TxD1 | TXD | O | Data output of the RS-232C |
| 103 | PB12/XIRQ4/SCK0 | SSCK | I/O | Serial clock output (FL controller, DAC) |
| 104 | PB13/XIRQ5/SCK1 | XIRQL10 | I | Interrupt input 1 (MY CHIP) |
| 105 | GND | GND | – | GND |
| 106 | PB14/XIRQ6 | XIRQL11 | I | Interrupt input 2 (MY CHIP) |
| 107 | PB15/XIRQ7 | XINT0/ XAVIRQ0 | I | Interrupt input 0 (AV-1) |
| 108 | PA0/XCS4/TIOCA0 | XCS4 | O | Servo DSP chip select signal output |
| 109 | PA1/XCS5/XRAS | N.C. | O | Non connection |
| 110 | PA2/XCS6/TIOCB0 | XCS6 | O | AV-1 chip select signal output |
| 111 | XWAIT | XWAIT | I | Wait signal input |
| 112 | XWRL | XWRL | O | Write pulse output L |
| 113 | GND | GND | – | GND |
| 114 | XWRH | XWRH | O | Write pulse output H |
| 115 | XRD | XRD | O | Read pulse output |
| 116 | PA7/XBACK | XCURDET | I | Over-current detection signal input |
| 117 | PA8/XBREQ | CTS | I | RS-232C transfer permit input |
| 118 | PA9/XAH/XIRQOUT/ XADTRG | DTR | O | RS-232C transfer permit output |
| 119 | PA10/DPL/TIOCA1 | XAVIRQ1/ XINT1 | I | Interrupt input 1 (AV-1) |
| 120 | PA11/DPH/TIOCB1 | THLD | I | Tracking hold signal input |
| 121 | VCC | V+3D | – | V+3D |
| 122 | PA12/XIRQ0/DACK0/ TCLKA | DACK0 | O | DMA response output (MY CHIP) |
| 123 | PA13/XIRQ1/ XDREQ0/TCLKB | XDREQ0 | I | DMA request input (MY CHIP) |
| 124 | PA14/XIRQ2/XDACK1 | XDACK1 | O | DMA response output (AV-1) |
| 125 | PA15/XIRQ3/XDREQ1 | XDREQ1 | I | DMA request input (AV-1) |
| 126 | AD0 | D0 | I/O | Data bus 0 |

| No. | Mark | Pin Name | I/O | Function |
|---|---|---|---|---|
| 127 | GND | GND | – | GND |
| 128 | AD1 | D1 | I/O | Data bus 1 |
| 129 | AD2 | D2 | I/O | Data bus 2 |
| 130 | AD3 | D3 | I/O | Data bus 3 |
| 131 | AD4 | D4 | I/O | Data bus 4 |
| 132 | AD5 | D5 | I/O | Data bus 5 |
| 133 | AD6 | D6 | I/O | Data bus 6 |
| 134 | VCC | V+3D | – | V+3D |
| 135 | AD7 | D7 | I/O | Data bus 7 |
| 136 | AD8 | D8 | I/O | Data bus 8 |
| 137 | AD9 | D9 | I/O | Data bus 9 |
| 138 | AD10 | D10 | I/O | Data bus 10 |
| 139 | GND | GND | – | GND |
| 140 | AD11 | D11 | I/O | Data bus 11 |
| 141 | AD12 | D12 | I/O | Data bus 12 |
| 142 | AD13 | D13 | I/O | Data bus 13 |
| 143 | AD14 | D14 | I/O | Data bus 14 |
| 144 | VCC | V+3D | – | V+3D |
| 145 | AD15 | D15 | I/O | Data bus 15 |
| 146 | A0 (XHBS) | A0 | O | Address bus 0 |
| 147 | A1 | A1 | O | Address bus 1 |
| 148 | A2 | A2 | O | Address bus 2 |
| 149 | GND | GND | – | GND |
| 150 | A3 | A3 | O | Address bus 3 |
| 151 | A4 | A4 | O | Address bus 4 |
| 152 | A5 | A5 | O | Address bus 5 |
| 153 | A6 | A6 | O | Address bus 6 |
| 154 | A7 | A7 | O | Address bus 7 |
| 155 | A8 | A8 | O | Address bus 8 |
| 156 | A9 | A9 | O | Address bus 9 |
| 157 | A10 | A10 | O | Address bus 10 |
| 158 | A11 | A11 | O | Address bus 11 |
| 159 | A12 | A12 | O | Address bus 12 |
| 160 | A13 | A13 | O | Address bus 13 |
| 161 | A14 | A14 | O | Address bus 14 |
| 162 | A15 | A15 | O | Address bus 15 |
| 163 | A16 | A16 | O | Address bus 16 |
| 164 | A17 | A17 | O | Address bus 17 |
| 165 | VCC | V+3D | – | V+3D |
| 166 | A18 | A18 | O | Address bus 18 |
| 167 | A19 | A19 | O | Address bus 19 |
| 168 | A20 | A20 | O | Address bus 20 |
| 169 | A21 | A21 | O | N.C. |
| 170 | XNMI | XNMI | I | V+3D |
| 171 | GND | GND | – | GND |
| 172 | XCS10 | XCS10 | O | VHCT574F/FS (3-state buffer) |
| 173 | XCS20 | XCS20 | O | Chip select signal output of the flash ROM |
| 174 | XCS22 | XCS22 | O | (GUI ROM) |
| 175 | XCS23 | XCS23 | O | Chip select signal output of the SRAM |
| 176 | XCS2 | | O | N.C. |

## ■ VYW1646 (DVDM ASSY : IC603)

- **16M bit Flash Memory IC**

### ● Block Diagram



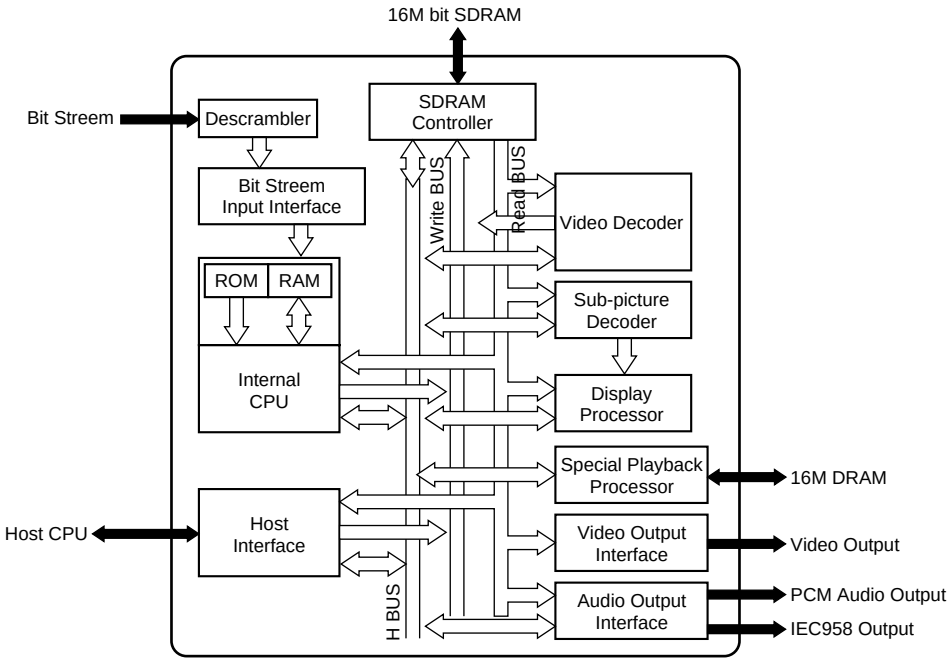

### ● Pin Function

| No. | Pin Name | I/O | Pin Function | No. | Pin Name | I/O | Pin Function |
|---|---|---|---|---|---|---|---|
| 1 | A15 | I | Address inputs | 25 | A0 | I | Address input |
| 2 | A14 | | | 26 | $\overline{CE}$ | I | Chip enable |
| 3 | A13 | | | 27 | VSS | – | Ground |
| 4 | A12 | | | 28 | $\overline{OE}$ | I | Output enable |
| 5 | A11 | | | 29 | DQ0 | I/O | Data inputs/outputs |
| 6 | A10 | | | 30 | DQ8 | | |
| 7 | A9 | | | 31 | DQ1 | | |
| 8 | A8 | | | 32 | DQ9 | | |
| 9 | A19 | | | 33 | DQ2 | | |
| 10 | N.C. | – | Non connection | 34 | DQ10 | | |
| 11 | $\overline{WE}$ | I | Write enable | 35 | DQ3 | | |
| 12 | $\overline{RESET}$ | I | Hardware reset pin/Temporary sector unprotection | 36 | DQ11 | | |
| 13 | N.C. | – | Non connection | 37 | VCC | – | Power supply |
| 14 | N.C. | – | Non connection | 38 | DQ4 | I/O | Data inputs/outputs |
| 15 | RY/$\overline{BY}$ | O | Ready/Busy output | 39 | DQ12 | | |
| 16 | A18 | I | Address inputs | 40 | DQ5 | | |
| 17 | A17 | | | 41 | DQ13 | | |
| 18 | A7 | | | 42 | DQ6 | | |
| 19 | A6 | | | 43 | DQ14 | | |
| 20 | A5 | | | 44 | DQ7 | | |
| 21 | A4 | | | 45 | DQ15/A-1 | I/O | Data inputs/outputs / Address input |
| 22 | A3 | | | 46 | VSS | – | Ground |
| 23 | A2 | | | 47 | $\overline{BYTE}$ | I | Selects 8-bit or 16-bit mode |
| 24 | A1 | | | 48 | A16 | I | Address input |

## ■ M65773FP (DVDM ASSY : IC801)

- **MPEG2 Decoder IC**

### ● Block Diagram




### ● Pin Function

| No. | Pin Name | I/O | Pin Function | No. | Pin Name | I/O | Pin Function |
|---|---|---|---|---|---|---|---|
| 1 | GND | I | Ground | 21 | 5VDD | I | 5V power supply |
| 2 | HD0 | I/O | Data input and output port | 22 | HD15 | I/O | Data input and output port |
| 3 | HD1 | | | 23 | CS | I | Chip select signal input |
| 4 | HD2 | | | 24 | RE | I | Read Enable signal input |
| 5 | HD3 | | | 25 | WE | I | Write Enable signal input |
| 6 | HD4 | | | 26 | BHE | I | Byte High Enable signal input |
| 7 | 5VDD | I | 5V power supply | 27 | RDY | O | Acknowledge signal which is indicated the finish of data reading or writing via the host bus |
| 8 | VDD | I | Power supply | 28 | INTR | O | Interrupt request signal against to the external CPU from M65773FP |
| 9 | HD5 | I/O | Data input and output port | 29 | GND | I | Ground |
| 10 | HD6 | | | 30 | HA0 | I | Address input port |
| 11 | HD7 | | | 31 | HA1 | | |
| 12 | HD8 | | | 32 | HA2 | | |
| 13 | HD9 | | | 33 | HA3 | | |
| 14 | GND | I | Ground | 34 | HA4 | | |
| 15 | HD10 | I/O | Data input and output port | 35 | VDD | I | Power supply |
| 16 | HD11 | | | 36 | 5VDD | I | 5V power supply |
| 17 | HD12 | | | 37 | HA5 | I | Address input port |
| 18 | HD13 | | | 38 | HA6 | | |
| 19 | HD14 | | | 39 | HA7 | | |
| 20 | VDD | I | Power supply | 40 | HA8 | | |

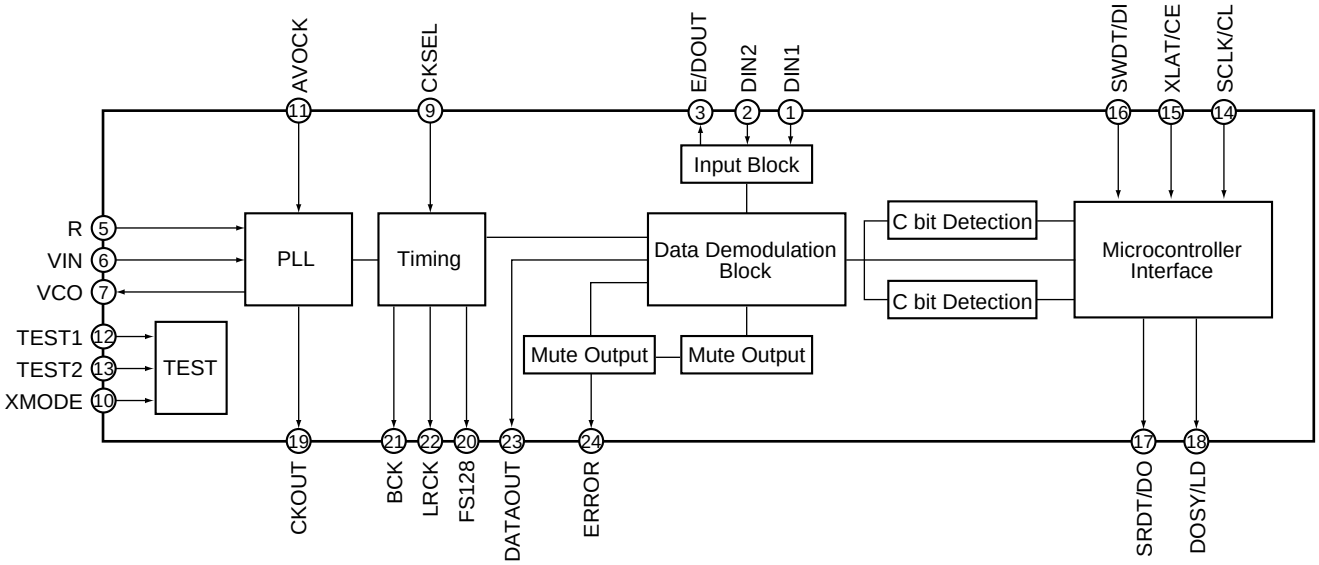
| No. | Pin Name | I/O | Pin Function | No. | Pin Name | I/O | Pin Function |
|---|---|---|---|---|---|---|---|
| 41 | HA9 | I | Address input port | 83 | VDD | I | Power supply |
| 42 | GND | I | Ground | 84 | VSYNC | O | Vertiacl sync. signal output |
| 43 | CDMCK | I | Connect to ground | 85 | HSYNC | O | Horizontal sync. signal output |
| 44 | CDLRCK | I | L/R clock clock input from CDDSP | 86 | PICSTRT | | |
| 45 | CDBCK | I | PCM bit clock input from CDDSP | 87 | MBSTRT | | |
| 46 | CDDATA | I | Digital audio interface input | 88 | MBDATA | | |
| 47 | VDD | I | Power supply | 89 | GND | I | Ground |
| 48 | CDDIN | I | PCM audio data input from CDDSP | 90 | PWD | O | Phase comparator output for external sync. operation |
| 49 | INT2 | O | Interrupt request signal against to the external CPU from M65773FP | 91 | CSYNC | I | Composite SYNC signal input |
| 50 | INT3 | | | 92 | OSDKEY | O | OSD key flag output |
| 51 | DREQ | O | DMA request signal for OSD bitmap transfer | 93 | PXCLK | O | Pixel clock (27MHz free-running clock) |
| 52 | DACK | I | DMA acknowledge signal for OSD bitmap transfer | 94 | VDD | I | Power supply |
| 53 | GND | I | Ground | 95 | PD7 | O | Digital pixel data |
| 54 | CLKO | O | 27MHz clock output | 96 | PD6 | | |
| 55 | CLKIN | I | System clock input | 97 | PD5 | | |
| 56 | AVDD1 | I | Analog power supply | 98 | PD4 | | |
| 57 | AGND1 | I | Analog ground | 99 | GND | I | Ground |
| 58 | AGND3 | | | 100 | PD3 | O | Digital pixel data |
| 59 | AVDD3 | I | Analog power supply | 101 | PD2 | | |
| 60 | CCAP | I | Connect to ground | 102 | PD1 | | |
| 61 | AGND2 | I | Analog ground | 103 | PD0 | | |
| 62 | AVDD2 | I | Analog power supply | 104 | VDD | I | Power supply |
| 63 | ACLKO | – | Open | 105 | GND | I | Ground |
| 64 | ACLKI | I | Audio clock input | 106 | RESET | I | Hardware reset input |
| 65 | HMODE1 | I | Setting pin of host interface operating mode | 107 | TEST0 | I | Connect to ground normally |
| 66 | GND | I | Ground | 108 | TEST1 | | |
| 67 | VDD | I | Power supply | 109 | TEST2 | | |
| 68 | AOD | O | PCM output of audio data | 110 | VDD | I | Power supply |
| 69 | AO2 | | | 111 | NMD0 | I/O | Data transfer line with DRAM |
| 70 | AO1 | | | 112 | NMD15 | | |
| 71 | AO0 | | | 113 | NMD1 | | |
| 72 | GND | I | Ground | 114 | NMD14 | | |
| 73 | DOUT1 | O | Digital audio interface output | 115 | GND | I | Ground |
| 74 | DOUT0 | | | 116 | NMD2 | I/O | Data transfer line with DRAM |
| 75 | SDA | – | Open | 117 | NMD13 | | |
| 76 | SCL | – | Open | 118 | NMD3 | | |
| 77 | VDD | I | Power supply | 119 | NMD12 | | |
| 78 | GND | I | Ground | 120 | VDD | I | Power supply |
| 79 | DACCLK | O | Over-sampling operating clock output | 121 | NMD4 | I/O | Data transfer line with DRAM |
| 80 | DOCLK | O | PCM bit clock output | 122 | NMD11 | | |
| 81 | LRCLK | O | Clock output for discriminating the channel (L/R) of PCM audio data | 123 | NMD5 | | |
| 82 | HMODE0 | I | Setting pin of host interface operating mode | 124 | NMD10 | | |

| No. | Pin Name | I/O | Pin Function | No. | Pin Name | I/O | Pin Function |
|---|---|---|---|---|---|---|---|
| 125 | GND | I | Ground | 167 | MA5 | O | Address line with SDRAM |
| 126 | NMD6 | I/O | Data transfer line with DRAM | 168 | GND | I | Ground |
| 127 | NMD9 | | | 169 | MA1 | O | Address line with SDRAM |
| 128 | NMD7 | | | 170 | MA6 | | |
| 129 | NMD8 | | | 171 | MA0 | | |
| 130 | VDD | I | Power supply | 172 | MA7 | | |
| 131 | NCAS0 | O | CAS (Column Address Strobe) control line of DRAM | 173 | VDD | I | Power supply |
| 132 | NWE | O | WE control line of DRAM | 174 | MA10 | O | Address line with SDRAM |
| 133 | NCAS1 | O | CAS (Column Address Strobe) control line of DRAM | 175 | MA8 | | |
| 134 | NRAS | O | RAS (Row Address Strobe) control line of DRAM | 176 | MA11 | | |
| 135 | GND | I | Ground | 177 | MA9 | | |
| 136 | NMA9 | O | Address line with DRAM | 178 | GND | I | Ground |
| 137 | NMA8 | | | 179 | DCS | O | Chip select of SDRAM |
| 138 | VDD | I | Power supply | 180 | RAS | O | RAS (Row Address Strobe) control line of SDRAM |
| 139 | NMA0 | O | Address line with DRAM | 181 | CAS | O | CAS (Column Address Strobe) control line of SDRAM |
| 140 | NMA7 | | | 182 | VDD | I | Power supply |
| 141 | NMA1 | | | 183 | MCLK | O | Operation clock of SDRAM |
| 142 | NMA6 | | | 184 | GND | I | Ground |
| 143 | GND | I | Ground | 185 | DWE | O | WE control line of SDRAM |
| 144 | NMA2 | O | Address line with DRAM | 186 | DQMU | O | DQM control line of SDRAM<br>Use for mask of upper byte output. |
| 145 | NMA5 | | | 187 | DQML | O | DQM control line of SDRAM<br>Use for mask of lower byte output. |
| 146 | NMA3 | | | 188 | VDD | I | Power supply |
| 147 | NMA4 | | | 189 | MD7 | I/O | Data transfer line with SDRAM |
| 148 | VDD | I | Power supply | 190 | MD8 | | |
| 149 | BD7 | I | Bit stream input port | 191 | MD6 | | |
| 150 | BD6 | | | 192 | MD9 | | |
| 151 | GND | I | Ground | 193 | GND | I | Ground |
| 152 | BD5 | I | Bit stream input port | 194 | MD5 | I/O | Data transfer line with SDRAM |
| 153 | BD4 | | | 195 | MD10 | | |
| 154 | BD3 | | | 196 | MD4 | | |
| 155 | BD2 | | | 197 | MD11 | | |
| 156 | VDD | I | Power supply | 198 | VDD | I | Power supply |
| 157 | GND | I | Ground | 199 | MD3 | I/O | Data transfer line with SDRAM |
| 158 | BD1 | I | Bit stream input port | 200 | MD12 | | |
| 159 | BD0 | | | 201 | MD2 | | |
| 160 | BCLK | I | Strobe signal (clock) of BD port | 202 | MD13 | | |
| 161 | BDEN | I | Indicates the effective or invalid data which is sampled from BD port | 203 | GND | I | Ground |
| 162 | BDREQ | O | Output permission signal against to the device (channel decoder) which connecting to BD port | 204 | MD1 | I/O | Data transfer line with SDRAM |
| 163 | VDD | I | Power supply | 205 | MD14 | | |
| 164 | MA3 | O | Address line with SDRAM | 206 | MD0 | | |
| 165 | MA4 | | | 207 | MD15 | | |
| 166 | MA2 | | | 208 | VDD | I | Power supply |

## ■ LC89051V (DVDM ASSY : IC903)

**• Digital Audio IC**

**● Block Diagram**



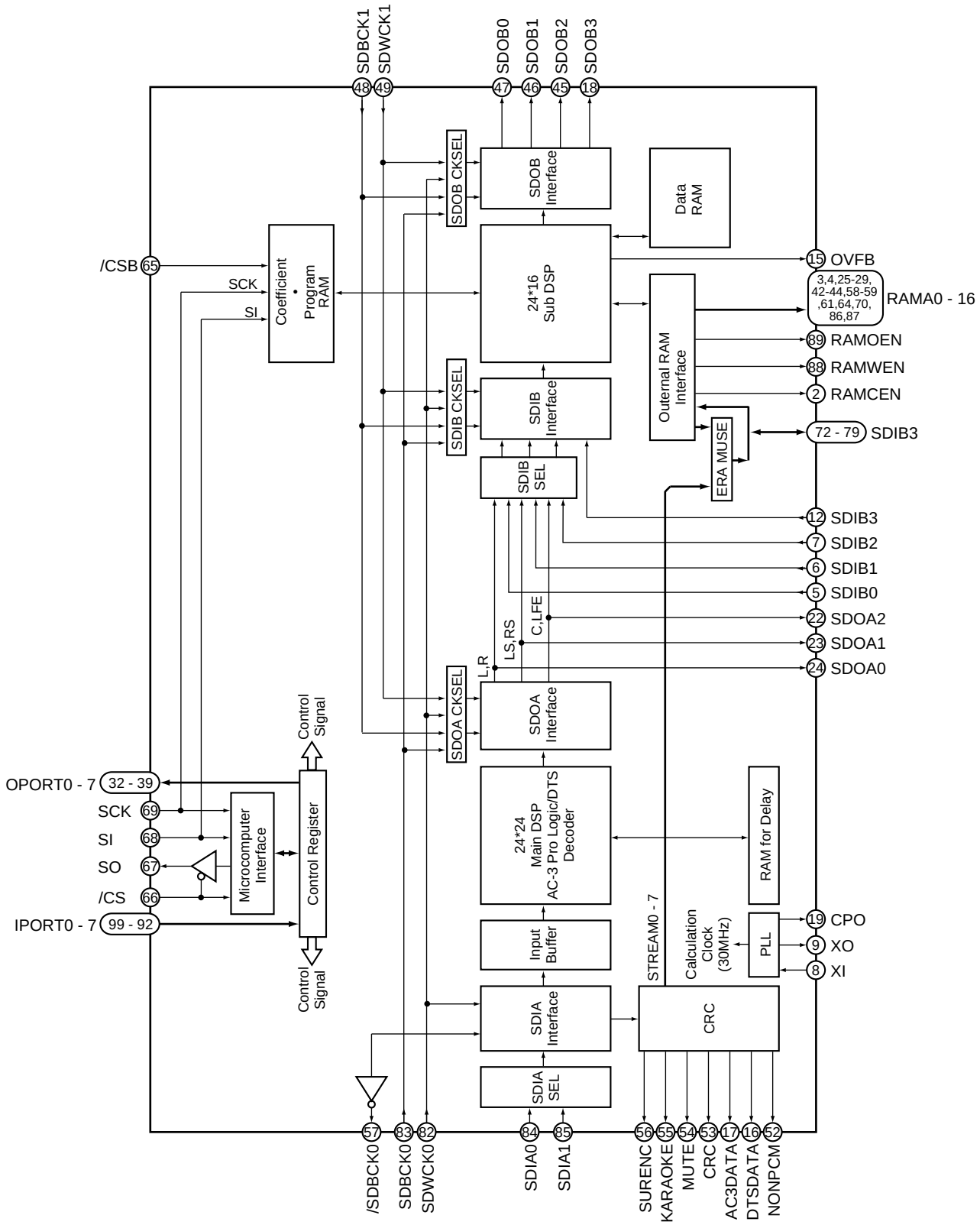

**● Pin Function**

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 | DIN1 | I | Data input with built-in amplifier (for coaxial or optical module input) |
| 2 | DIN2 | I | Data input (for optical module input) |
| 3 | E/DOUT | O | Emphasis, input bi-phase, and validity flag output |
| 4 | VDD | – | Power supply |
| 5 | R | I | VCO gain control input |
| 6 | VIN | I | VCO free-running setting input |
| 7 | VCO | O | PLL low-pass filter setting |
| 8 | GND | – | Ground |
| 9 | CKSEL | I | System clock selection input (384fs or 512fs) |
| 10 | XMODE | I | Reset input |
| 11 | AVOCK | I | PLL error lock avoidance clock input |
| 12 | TEST1 | I | Test input (Must be connected to ground in normal operation) |
| 13 | TEST2 | I | Test input (Must be connected to ground in normal operation) |
| 14 | SCLK/CL | I | Microcomputer interface clock input |
| 15 | XLAT/CE | I | Microcomputer interface latch/chip enable input |
| 16 | SWDT/DI | I | Microcomputer interface write data input |
| 17 | SRDT/DO | O | Microcomputer interface read data output |
| 18 | DOSY/LD | O | Microcomputer interface subcode Q and ID synchronization output |
| 19 | CKOUT | O | VCO clock output (free running, 384fs, or 512fs) |
| 20 | FS128 | O | 128fs clock output |
| 21 | BCK | O | Bit clock output |
| 22 | LRCK | O | L/R clock output (left channel=high, right channel=low) |
| 23 | DATAOUT | O | Audio data output |
| 24 | ERROR | O | PLL lock error mute output |

## ■ YSS912C (JCKB ASSY : IC501)

• **DTS Decoder**

● **Block Diagram**



## ● Pin Function

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 | VDD1 | – | +5V power supply for the terminal block |
| 2 | RAMCEN | O | Chip enable for external SRAM |
| 3 | RAMA16 | O | Address pin 16 for external SRAM |
| 4 | RAMA15 | O | Address pin 15 for external SRAM |
| 5 | SDIB0 | I+ | PCM input pin 0 to Sub-DSP |
| 6 | SDIB1 | I+ | PCM input pin 1 to Sub-DSP |
| 7 | SDIB2 | I+ | PCM input pin 2 to Sub-DSP |
| 8 | XI | I | Connect a crystal oscillator (12.288MHz( |
| 9 | XO | O | |
| 10 | VSS | – | Ground |
| 11 | AVDD | – | +3.3V power supply for PLL circuit |
| 12 | SDIB3 | I+ | PCM input pin 3 to Sub-DSP |
| 13 | TEST | – | Test pin Non connection |
| 14 | TEST | – | Test pin Non connection |
| 15 | OVFB | O | Over-flow detection pin of Sub-DSP |
| 16 | DTSDATA | O | DTS data detection pin |
| 17 | AC3DATA | O | AC-3 data detection pin |
| 18 | SDOB3 | O | PCM output pin from Sub-DSP |
| 19 | CPO | A | Output for PLL Connect the external analog filter circuit. |
| 20 | AVSS | – | Ground for PLL circuit |
| 21 | VDD2 | – | +3.3V power supply for the internal circuit |
| 22 | SDOA2 | O | PCM output pin from Main-DSP (C, LFE output) |
| 23 | SDOA1 | O | PCM output pin from Main-DSP (LS, RS output) |
| 24 | SDOA0 | O | PCM output pin from Main-DSP (L, R output) |
| 25 | RAMA14 | O | Address pin 14 for external SRAM |
| 26 | RAMA13 | O | Address pin 13 for external SRAM |
| 27 | RAMA12 | O | Address pin 12 for external SRAM |
| 28 | RAMA11 | O | Address pin 11 for external SRAM |
| 29 | RAMA10 | O | Address pin 10 for external SRAM |
| 30 | VSS | – | Ground |
| 31 | VDD1 | – | +5V power supply for terminal block |
| 32 | OPORT0 | O | General-purpose output pin |
| 33 | OPORT1 | | |
| 34 | OPORT2 | | |
| 35 | OPORT3 | | |
| 36 | OPORT4 | | |
| 37 | OPORT5 | | |
| 38 | OPORT6 | | |
| 39 | OPORT7 | | |
| 40 | VSS | – | Ground |
| 41 | VDD2 | – | +3.3V power supply for internal circuit |
| 42 | RAMA9 | O | Address pin 9 for external SRAM |
| 43 | RAMA8 | O | Address pin 8 for external SRAM |
| 44 | RAMA7 | O | Address pin 7 for external SRAM |
| 45 | SDOB2 | O | PCM output pin from SUb-DSP |
| 46 | SDOB1 | | |
| 47 | SDOB0 | | |
| 48 | SDBCK1 | I+ | Bit clock input for SDOA, SDIB and SDOB signals |
| 49 | SDWCK1 | I+ | Word clock input for SDOA, SDIB and SDOB signals |
| 50 | VSS | – | Ground |

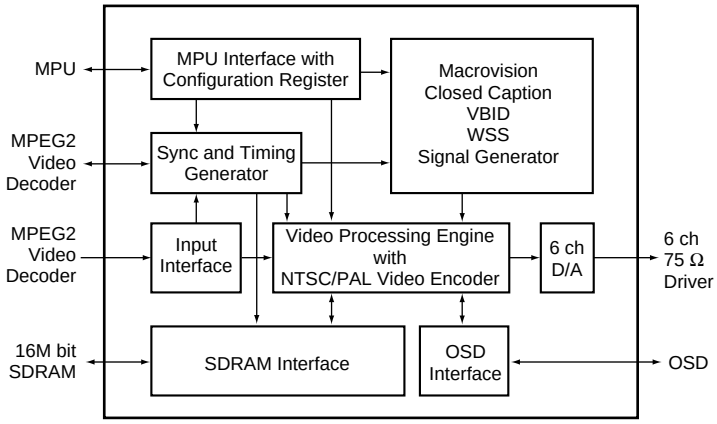
| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 51 | VDD2 | – | +3.3V power supply for internal circuit |
| 52 | NONPCM | O | Non-PCM data detection pin |
| 53 | CRC | O | AC-3 CRC error detection pin |
| 54 | MUTE | O | Auto mute detection pin |
| 55 | KARAOKE | O | AC-3 karaoke data detection pin |
| 56 | SURENC | O | Dolby surround encode input detection pin of AC-3 2/0 mode |
| 57 | /SDBCK0 | O | Inverting clock output of SDBCK0 |
| 58 | RAMA6 | O | Address pin 6 for external SRAM |
| 59 | RAMA5 | O | Address pin 5 for external SRAM |
| 60 | VSS | – | Ground |
| 61 | RAMA4 | O | Address pin 4 for external SRAM |
| 62 | /IC | Is | Initial clear pin |
| 63 | TEST | – | Test pin Non connection |
| 64 | RAMA3 | O | Address pin 3 for external SRAM |
| 65 | /CSB | IS+ | Chip select input pin for Sub-DSP |
| 66 | /CS | Is | Chip select input pin of the microcomputer interface |
| 67 | SO | Ot | Data output pin of the microcomputer interface |
| 68 | SI | Is | Microcomputer interface and data input pin for Sub-DSP |
| 69 | SCK | Is | Microcomputer interface and clock input pin for Sub-DSP |
| 70 | RAMA2 | O | Address pin 2 for external SRAM |
| 71 | VDD1 | – | +5V power supply for the terminal block |
| 72 | RAMD0 | I+/O | Data pin for external SRAM (STREAM 0 output when external SRAM is not used.) |
| 73 | RAMD1 | | |
| 74 | RAMD2 | | |
| 75 | RAMD3 | | |
| 76 | RAMD4 | | |
| 77 | RAMD5 | | |
| 78 | RAMD6 | | |
| 79 | RAMD7 | | |
| 80 | VSS | – | Ground |
| 81 | VDD2 | – | +3.3V power supply for the internal circuit |
| 82 | SDWCK0 | I | Word clock input pin for SDIA, SDOA, SDIB and SDOB signals |
| 83 | SDBCK0 | I | Bit clock input pin for SDIA, SDOA, SDIB and SDOB signals |
| 84 | SDIA0 | I | AC-3/DTS bitstream (or PCM) data input pin to Main-DSP |
| 85 | SDIA1 | I | |
| 86 | RAMA1 | O | Address pin 1 for external SRAM |
| 87 | RAMA0 | O | Address pin 0 for external SRAM |
| 88 | RAMWEN | O | Write enable pin for external SRAM |
| 89 | RAMOEN | O | Output enable pin for external SRAM |
| 90 | VSS | – | Ground |
| 91 | VDD2 | – | +3.3V power supply for the internal circuit |
| 92 | IPORT7 | I+ | General-purpose input pin |
| 93 | IPORT6 | | |
| 94 | IPORT5 | | |
| 95 | IPORT4 | | |
| 96 | IPORT3 | | |
| 97 | IPORT2 | | |
| 98 | IPORT1 | | |
| 99 | IPORT0 | | |
| 100 | VSS | – | Ground |

Note) Is: Schmitt trigger input , I+: Input with pull-up resistor , O: Digital output , Ot: 3-state digital output , A: Analog

## ■ PM0023AF (VQEB ASSY : IC101)

• **VQE4 IC**

● **Block Diagram**




● **Pin Function**

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 | GND_00 | – | Ground Connect to reference voltage (0V). |
| 2 | CLAMP | O | Clamp pulse output |
| 3 | RMA0 | I | Register monitor address input |
| 4 | RMA1 | | |
| 5 | RMA2 | | |
| 6 | RMA3 | | |
| 7 | RMA4 | | |
| 8 | RMA5 | | |
| 9 | DOC0 | I | Output data control input |
| 10 | DOC1 | | |
| 11 | VDD_00 | – | Power supply Connect to 3.3V. |
| 12 | GND_01 | – | Ground Connect to reference voltage (0V). |
| 13 | CSB | I | Chip select input for microcomputer interface L: select Schmitt input |
| 14 | SDATA | I | Serial data input for microcomputer interface Schmitt input |
| 15 | SCLK | I | Serial clock input for microcomputer interface Lead in SDATA at rising edge. Schmitt input |
| 16 | SRN | I | System reset input L: reset Schmitt input |
| 17 | TEST | I | Test mode cntrol input Connect to GND. |
| 18 | VCC_S0 | – | Power supply Connect to 3.3V. |
| 19 | GND_S0 | – | Ground Connect to reference voltage (0V). |
| 20 | XI | I | Connect a crystal resonator (27MHz) Connect to VCC (+3.3V) when using CLK (pin 23). |
| 21 | XO | O | Connect a crystal resonator (27MHz) Set to open when using CLK (pin 23). |
| 22 | GND_02 | – | Ground Connect to reference voltage (0V). |
| 23 | CLKI | I | External clock (27MHz) input |
| 24 | VDD_01 | – | Power supply Connect to 3.3V. |

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 25 | VI0 | I | (LSB) |
| 26 | VI1 | | |
| 27 | VI2 | | |
| 28 | VI3 | | Video data input<br>Input 8-bit parallel signal of CCIR-601 or CCIR-656 systems. |
| 29 | VI4 | | |
| 30 | VI5 | | |
| 31 | VI6 | | |
| 32 | VI7 | | (MSB) |
| 33 | GND_03 | – | Ground Connect to reference voltage (0V). |
| 34 | NHS | I/O | Horizontal sync. signal input Outputs at Master mode and inputs at Slave mode (set with the register).<br>Negative polarity |
| 35 | NVS | I/O | Vertical sync. signal input Outputs at Master mode and inputs at Slave mode (set with the register).<br>Negative polarity |
| 36 | VDD_02 | – | Power supply Connect to 3.3V. |
| 37 | DOC2 | I | Output data control input |
| 38 | GND_04 | – | Ground Connect to reference voltage (0V). |
| 39 | MD00 | I/O | (LSB) |
| 40 | MD01 | | Data input and output for external memory with pull-up |
| 41 | MD02 | | |
| 42 | MD03 | | |
| 43 | VDD_03 | – | Power supply Connect to 3.3V. |
| 44 | GND_05 | – | Ground Connect to reference voltage (0V). |
| 45 | MD04 | I/O | Data input and output for external memory with pull-up |
| 46 | MD05 | | |
| 47 | MD06 | | |
| 48 | MD07 | | |
| 49 | VDD_04 | – | Power supply Connect to 3.3V. |
| 50 | MD15 | I/O | Data input and output for external memory with pull-up (MSB) |
| 51 | MD14 | I/O | Data input and output for external memory with pull-up |
| 52 | MD13 | | |
| 53 | MD12 | | |
| 54 | VCC_S1 | – | Power supply Connect to 3.3V. |
| 55 | GND_S1 | – | Ground Connect to reference voltage (0V). |
| 56 | MD11 | I/O | Data input and output for external memory with pull-up |
| 57 | MD10 | | |
| 58 | MD09 | | |
| 59 | MD08 | | |
| 60 | GND_06 | – | Ground Connect to reference voltage (0V). |
| 61 | MCLK | O | Clock output for external memory |
| 62 | MA09 | O | Address output for external memory |
| 63 | MA08 | | |
| 64 | MA07 | | |
| 65 | MA06 | | |
| 66 | VDD_05 | – | Power supply Connect to 3.3V. |
| 67 | GND_07 | – | Ground Connect to reference voltage (0V). |
| 68 | MA05 | O | Address output for external memory |
| 69 | MA04 | | |
| 70 | MWEB | O | Writing control output for external memory |
| 71 | MCASB | O | CAS output for external memory |
| 72 | MRASB | O | RAS output for external memory |
| 73 | MA11 | O | Address output for external memory (MSB) |
| 74 | MA10 | O | Address output for external memory |
| 75 | MA00 | O | Address output for external memory (LSB) |

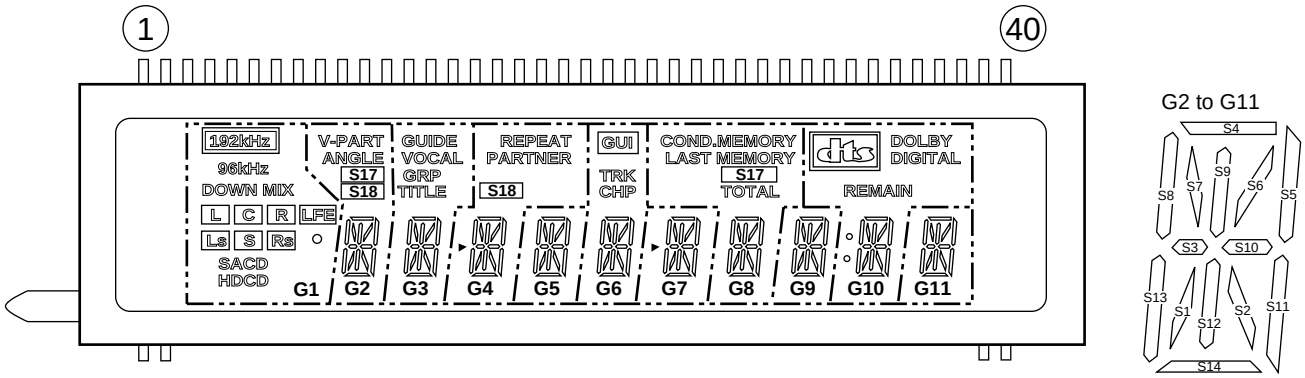
| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 76 | VDD_06 | – | Power supply Connect to 3.3V. |
| 77 | GND_08 | – | Ground Connect to reference voltage (0V). |
| 78 | MA01 | O | Address output for external memory |
| 79 | MA02 | | |
| 80 | MA03 | | |
| 81 | OSDHSY | O | Horizontal sync. signal output for external OSD Negative polarity |
| 82 | OSDVSY | O | Vertical sync. signal output for external OSD Negative polarity |
| 83 | VDD_07 | – | Power supply Connect to 3.3V. |
| 84 | GND_09 | – | Ground Connect to reference voltage (0V). |
| 85 | OSDCLK | O | Clock output for external OSD |
| 86 | GND_10 | – | Ground Connect to reference voltage (0V). |
| 87 | CTA2 | I | OSD data input |
| 88 | CTA1 | | |
| 89 | CTA0 | | |
| 90 | VCC_S2 | – | Power supply Connect to 3.3V. |
| 91 | GND_S2 | – | Ground Connect to reference voltage (0V). |
| 92 | BLD1 | I | OSD blend control input |
| 93 | BLD0 | | |
| 94 | SCAN_T | I | Control input for scan test Connect to 3.3V. |
| 95 | SCAN_W | | |
| 96 | DO0 | O | Data output |
| 97 | DO1 | | |
| 98 | DO2 | | |
| 99 | DO3 | | |
| 100 | DO4 | | |
| 101 | DO5 | | |
| 102 | DO6 | | |
| 103 | DO7 | | |
| 104 | DO8 | | |
| 105 | DO9 | | |
| 106 | RMO0 | O | Register monitor output |
| 107 | RMO1 | | |
| 108 | VDD_08 | – | Power supply Connect to 3.3V. |
| 109 | RMO2 | O | Register monitor output |
| 110 | RMO3 | | |
| 111 | VDD_09 | – | Power supply Connect to 3.3V. |
| 112 | GND_11 | – | Ground Connect to reference voltage (0V). |
| 113 | GND_AGB0 | A | Ground for Guard band Connect to reference voltage (0V). |
| 114 | VDDDA_A0 | A | Power supply for A0 channel DAC Connect to 3.3V. |
| 115 | DAO_A0 | A | DAC output of A0 channel Current output Connect a 330Ω resistor to GND. |
| 116 | GNDDA_A0 | A | DAC ground of A0 channel Connect to reference voltage (0V). |
| 117 | DAO_A1 | A | DAC output of A1 channel Current output Connect a 330Ω resistor to GND. |
| 118 | GNDDA_A1 | A | DAC ground of A1 channel Connect to reference voltage (0V). |
| 119 | VDDDA_A1 | A | Power supply for A1 channel DAC Connect to 3.3V. |
| 120 | CBU_A | A | Connect a phase compensation capacitor for Group_A_DAC Connect a 0.1μF capacitor to GND. |

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 121 | REXT_A | A | Connect a reference resistor for Group_A_DAC Connect a 3.1 (3.0) kΩ resistor to GND> |
| 122 | CBL_A | A | Connect a by-pass capacitor for Group_A_DAC Connect a 0.1μF capacitor to GND. |
| 123 | VDDDA_A2 | A | Power supply for A2 channel DAC Connect to 3.3V. |
| 124 | GNDDA_A2 | A | DAC ground of A2 channel Connect to reference voltage (0V). |
| 125 | DAO_A2 | A | DAC output of A2 channel Current output Connect a 330Ω resistor to GND. |
| 126 | VDDDA_B0 | A | Power supply for B0 channel DAC Connect to 3.3V. |
| 127 | GNDDA_B0 | A | DAC ground of B0 channel Connect to reference voltage (0V). |
| 128 | DAO_B0 | A | DAC output of B0 channel Current output Connect a 330Ω resistor to GND. |
| 129 | GNDDA_B1 | A | DAC ground of B1 channel Connect to reference voltage (0V). |
| 130 | DAO_B1 | A | DAC output of B1 channel Current output Connect a 330Ω resistor to GND. |
| 131 | VDDDA_B1 | A | Power supply for B1 channel DAC Connect to 3.3V. |
| 132 | CMU_B | A | Connect a phase compensation capacitor for Group_B_DAC Connect a 0.1μF capacitor to GND. |
| 133 | REXT_B | A | Connect a reference resistor for Group_B_DAC Connect a 3.1 (3.0) kΩ resistor to GND> |
| 134 | CBL_B | A | Connect a by-pass capacitor for Group_B_DAC Connect a 0.1μF capacitor to GND. |
| 135 | GNDDA_B2 | A | DAC ground of B2 channel Connect to reference voltage (0V). |
| 136 | DAO_B2 | A | DAC output of B2 channel Current output Connect a 330Ω resistor to GND. |
| 137 | VDDDA_B2 | A | Power supply for B2 channel DAC Connect to 3.3V. |
| 138 | GND_AGB1 | A | Ground for Guard band Connect to reference voltage (0V). |
| 139 | RMO4 | O | Register monitor output |
| 140 | RMO5 | | |
| 141 | RMO6 | | |
| 142 | RMO7 | | |
| 143 | VDD_10 | – | Power supply Connect to 3.3V. |
| 144 | CLKO | O | Clock (27MHz) output |

## 7.2.2 DISPLAY

### ■ VAW1050 (FLKY ASSY : V101)

**• FL DISPLAY**







**• ANODE AND GRID ASSIGNMENT**

| | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S1 | 192kHz | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 |
| S2 | 96kHz | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 |
| S3 | DOWN MIX | S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 |
| S4 | L | S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 |
| S5 | C | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 |
| S6 | R | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 |
| S7 | LFE | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 |
| S8 | Ls | S8 | S8 | S8 | S8 | S8 | S8 | S8 | S8 | S8 | S8 |
| S9 | S | S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 |
| S10 | Rs | S10 | S10 | S10 | S10 | S10 | S10 | S10 | S10 | S10 | S10 |
| S11 | ○ | S11 | S11 | S11 | S11 | S11 | S11 | S11 | S11 | S11 | S11 |
| S12 | SACD | S12 | S12 | S12 | S12 | S12 | S12 | S12 | S12 | S12 | S12 |
| S13 | HDCD | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 |
| S14 | | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 |
| S15 | | V-PART | GUIDE | ▷ | | GUI | ▷ | COND MEMORY | | ○ ○ | |
| S16 | | ANGLE | VOCAL | REPEAT | | TRK | | LAST MEMORY | | dts | |
| S17 | | S17 | GRP | PARTNER | | CHP | | S17 | | DOLBY DIGITAL | |
| S18 | | S18 | TITLE | S18 | | | | TOTAL | | REMAIN | |

**• PIN ASSIGNMENT**

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assignment | NL | F1 | NL | NL | S18 | S17 | S16 | S15 | S14 | S13 | S12 | S11 | S10 | S9 | S8 | S7 | S6 | S5 | S4 | S3 |

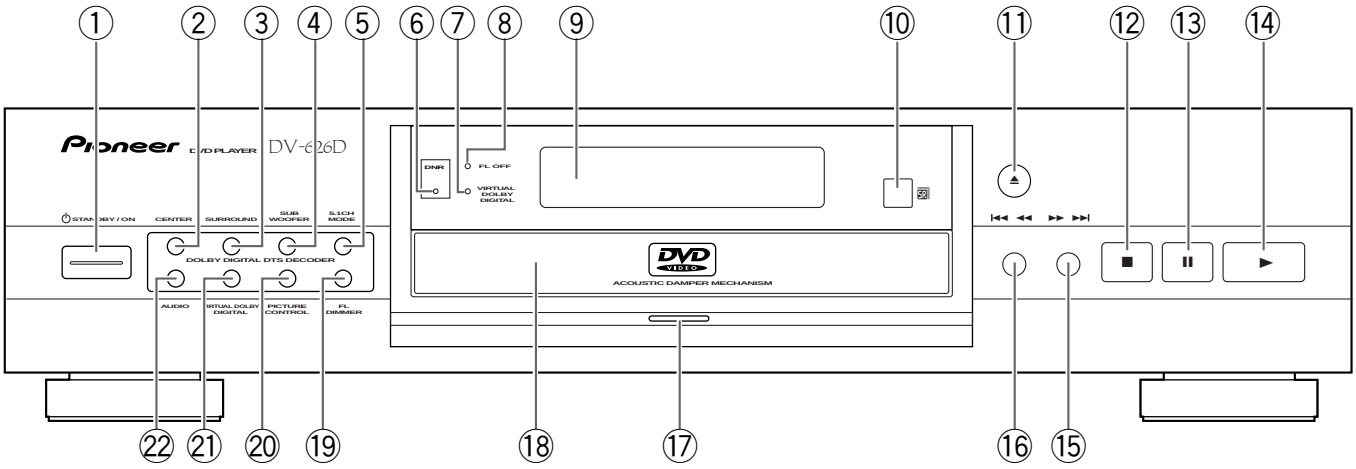
| Pin No. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assignment | S2 | S1 | NL | G11 | G10 | G9 | G8 | NL | NL | G7 | G6 | G5 | G4 | G3 | G2 | G1 | NL | NL | F2 | NL |

F1, F2 : Filament  G1~G11 : Grid  S1~S18 : Anode  NL : No Lead

# 8. PANEL FACILITIES AND SPECIFICATIONS

## 8.1 PANEL FACILITIES

### ■ Front Panel (KU and KC types)




① **⏻ STANDBY/ON button (U.S. and Canadian models only)**
Press to switch the player on or to put in standby.

② **CENTER button**
Press to turn the center speaker channel on and off when listening to sources being output from the 5.1 channel discrete audio outputs.

③ **SURROUND button**
Press to turn the surround (rear) speaker channels on and off when listening to sources being output from the 5.1 channel discrete audio outputs.

④ **SUB WOOFER button**
Press to turn the SUB WOOFER (LFE) channel on and off when listening to sources being output from the 5.1 channel discrete audio outputs.

⑤ **5.1 CH MODE button**
Press to switch the audio output between 5.1 channel audio and 2 channel audio. It is also possible to set the default audio output in the Setup screen **Audio 2** menu.

⑥ **DNR indicator**
Indicates that the digital noise reduction function is on .

⑦ **VIRTUAL DOLBY DIGITAL indicator**
Indicates that the Virtual Dolby Digital function is on .

⑧ **FL OFF indicator**
Indicates that the player's display window has been turned off using **FL DIMMER**.

⑨ **Display window**
Displays system information.

⑩ **Remote sensor**
Point the remote control toward the remote sensor to operate the player.

⑪ **⏏ (open/close) button**
Press to open and close the disc tray.

⑫ **■ (stop) button**
Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it stopped. Pressing twice causes the disc to return to the beginning of the disc if playback starts again.

⑬ **II (pause) button**
Press during playback to pause. Press again to resume playback.

⑭ **► (play) button**
Press to start or resume playback.

⑮ **►► ►►| (forward) button**
Press to advance to chapters/tracks. Press and hold to perform fast-forward scanning.

⑯ **|◄◄ ◄◄ (reverse) button**
Press to go back to previous chapters/tracks. Press and hold to perform reverse playback scanning.

⑰ **Disc illumination**
Lights when a DVD is loaded and when no disc is loaded. Turns off when a disc format other than DVD is loaded in the player.

⑱ **Disc tray**
When loading a disc, place in the disc tray with the label side facing up.

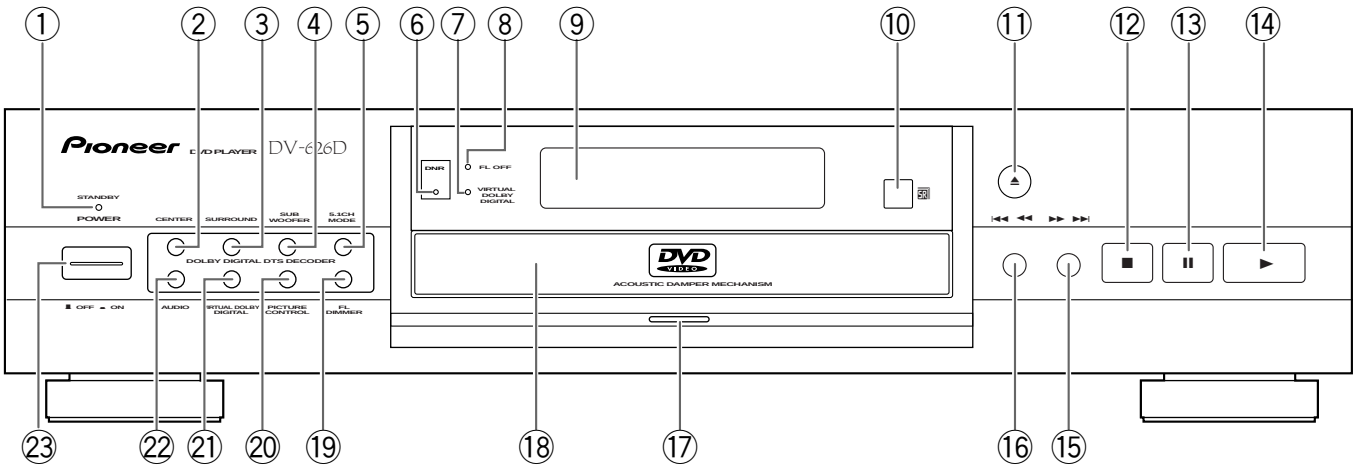
⑲ **FL DIMMER button**
Press to change the brightness of the FL display and disc illumination in four steps: maximum brightness, medium brightness, minimum brightness, and off. When the FL display is turned off, the FL OFF indicator lights.

⑳ **PICTURE CONTROL button**
Press repeatedly to select one of the programmed picture quality settings. The setting changes each time the button is pressed.

㉑ **VIRTUAL DOLBY DIGITAL button**
Press to turn the Virtual Surround function on and off .

㉒ **AUDIO button**
Press repeatedly to select one of the audio soundtracks available on a DVD.

## Front Panel (WY and WV types)




① **STANDBY indicator**
Indicates that the player is in standby, using a minimum amount of power to maintain system settings.

② **CENTER button**
Press to turn the center speaker channel on and off when listening to sources being output from the 5.1 channel discrete audio outputs.

③ **SURROUND button**
Press to turn the surround (rear) speaker channels on and off when listening to sources being output from the 5.1 channel discrete audio outputs.

④ **SUB WOOFER button**
Press to turn the sub-woofer (LFE) channel on and off when listening to sources being output from the 5.1 channel discrete audio outputs.

⑤ **5.1 CH MODE button**
Press to switch the audio output between 5.1 channel audio and 2 channel audio. It is also possible to set the default audio output in the Setup screen **Audio 2** menu.

⑥ **DNR indicator**
Indicates that the digital noise reduction function is on.

⑦ **VIRTUAL DOLBY DIGITAL indicator**
Indicates that the Virtual Dolby Digital function is on.

⑧ **FL OFF indicator**
Indicates that the player's display window has been turned off using **FL DIMMER**.

⑨ **Display window**
Displays system information.

⑩ **Remote sensor**
Point the remote control toward the remote sensor to operate the player.

⑪ **⏏ (open/close) button**
Press to open and close the disc tray.

⑫ **■ (stop) button**
Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it stopped. Pressing twice causes the disc to return to the beginning of the disc if playback starts again .

⑬ **II (pause) button**
Press during playback to pause. Press again to resume playback.

⑭ **► (play) button**
Press to start or resume playback.

⑮ **►► ►►| (forward) button**
Press to advance to chapters/tracks. Press and hold to perform fast-forward scanning.

⑯ **|◄◄ ◄◄ (reverse) button**
Press to go back to previous chapters/tracks. Press and hold to perform reverse playback scanning.

⑰ **Disc illumination**
Lights when a DVD is loaded and when no disc is loaded. Turns off when a disc format other than DVD is loaded in the player.

⑱ **Disc tray**
When loading a disc, place discs in the disc tray with the label side facing up.

⑲ **FL DIMMER button**
Press to change the brightness of the FL display and disc illumination in four steps: maximum brightness, medium brightness, minimum brightness, and off. When the FL display is turned off, the FL OFF indicator lights.

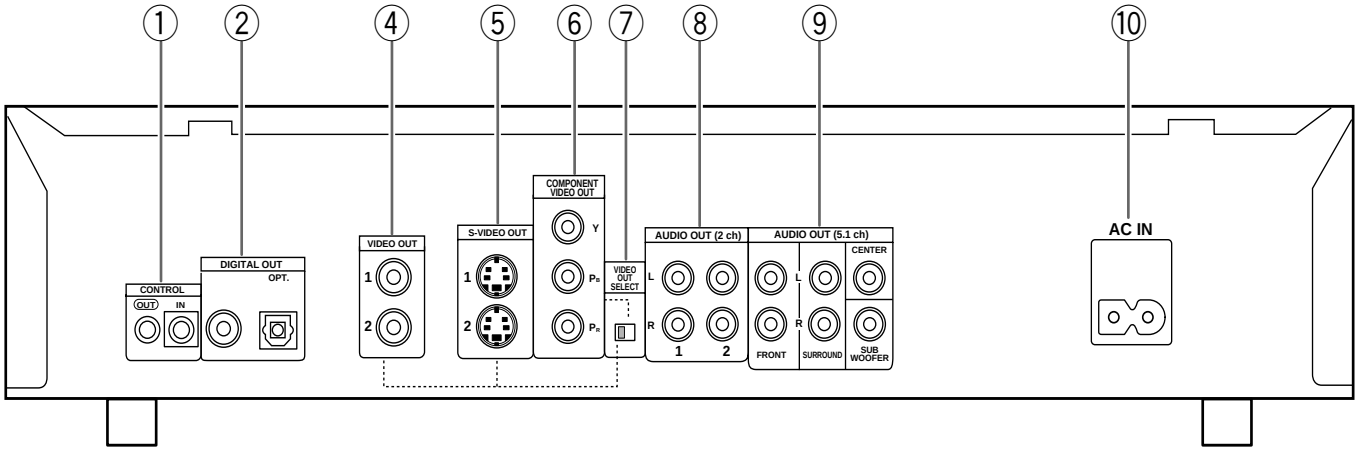
⑳ **PICTURE CONTROL button**
Press repeatedly to select one of the programmed picture quality settings. The setting changes each time the button is pressed.

㉑ **VIRTUAL DOLBY DIGITAL button**
Press to turn the Virtual Surround function on and off.

㉒ **AUDIO button**
Press repeatedly to select one of the audio soundtracks available on a DVD.

㉓ **POWER switch**
Press to switch the player on or off.

## Rear Panel (KU and KC types)




① **CONTROL jacks**

Use to connect this player to another component bearing the Pioneer mark. This lets you control this unit as though it were a component in a system. Player operations are then performed by pointing the remote control at the component that the player is connected to.

② **DIGITAL OUT jacks (coaxial, optical (OPT.))**

Use to output the digital audio signal recorded on discs. You can output the digital signal via either coaxial or optical output jack to an AV amplifier or receiver.

④ **VIDEO OUT jacks**

Connect to the video input on a TV or monitor or AV amplifier or receiver with video input capability. When using this output, be sure to set VIDEO OUT SELECT to the left position .

⑤ **S-VIDEO OUT jacks**

If your TV or monitor has an S-video input, clear picture reproduction is possible by connecting the player to your TV or monitor via the S-video jack When using this output, be sure to set VIDEO OUT SELECT to the left position.

⑥ **COMPONENT VIDEO OUT jacks**

If your projection monitor, projector or similar component has component video inputs, you can produce a higher quality picture on your projection monitor or projector by connecting to the component video outputs on this unit. When using these jacks, be sure to set VIDEO OUT SELECT to the right position .

⑦ **VIDEO OUT SELECT switch**

Use to set which output is used to output the video signals. Select either video/S-video or component video signal output depending on the connections you make.

⑧ **AUDIO OUT (2 ch) jacks**

Use to output two-channel audio (analog) to the audio stereo inputs on a TV or stereo amplifier. If you are connecting to a receiver that has both digital and analog input jacks for DVD player connection, it may be beneficial to make both connections.

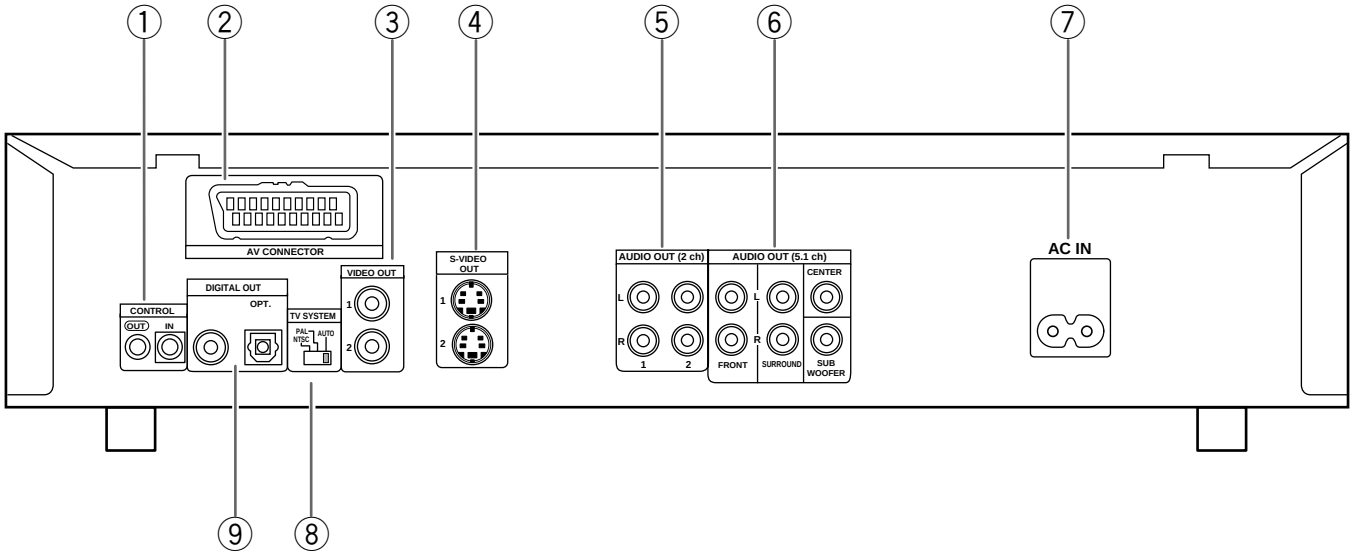
⑨ **AUDIO OUT (5.1 ch) jacks**

Use to output 6 discrete audio channels of decoded digital audio to a receiver or amplifier with discrete audio inputs.

⑩ **AC IN power cord connection terminal**

Use to connect the power cord to the wall outlet. Depending on the model, the shape of the terminal may be different from that shown here.

## Rear Panel (WY and WV types)




① **CONTROL jacks**

Use to connect this player to another component bearing the Pioneer mark. This lets you control this unit as though it were a component in a system. Player operations are then performed by pointing the remote control at the component that the player is connected to.

② **AV CONNECTOR jack**

Use a 21-pin SCART cable to connect to a TV or monitor compatible with this type of connection. Both audio (2 channel stereo) and video (Video, S-video, and RGB) signals are output from the AV CONNECTOR jack.

③ **VIDEO OUT jacks**

Connect to the video input on a TV or monitor or AV amplifier or receiver with video input capability.

④ **S-VIDEO OUT jacks**

If your TV or monitor has an S-video input, clear picture reproduction is possible by connecting the player to your TV or monitor via the S-video jack.

⑤ **AUDIO OUT (2 ch) jacks**

Use to output two-channel audio (analog) to the audio stereo inputs on a TV or stereo amplifier. If you are connecting to a receiver that has both digital and analog input jacks for DVD player connection, it may be beneficial to make both connections.

⑥ **AUDIO OUT (5.1 ch) jacks**

Use to output 6 discrete audio channels of decoded digital audio to a receiver or amplifier with discrete audio inputs.

⑦ **AC IN power cord connection terminal**

Use to connect the power cord to the wall outlet .

⑧ **TV SYSTEM switch**

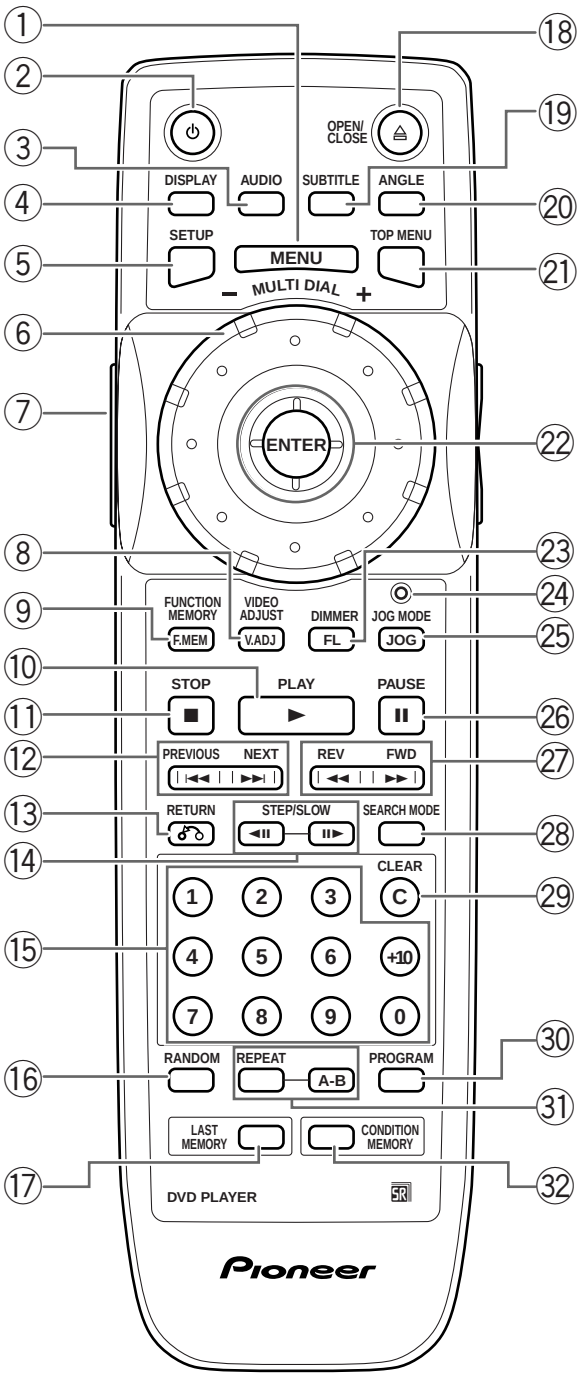
Use to change the TV signal mode to either PAL or NTSC according to the type of TV and disc to be used. When the switch is in the AUTO position, the player outputs the format on the disc as is.

⑨ **DIGITAL OUT jacks (coaxial, optical (OPT.))**

Use to output the digital audio signal recorded on discs. You can output the digital signal via either coaxial or optical output jack to an AV amplifier or receiver.

## Remote Control Unit (VXX2627 (CU-DV036) : KU and KC types)

(Buttons indicated with * are used for menu operation.)




① **MENU button***

Use to display or close the DVD menu screen.

② **⏻ (standby/on) button**

Press to switch the player on or to put in standby .

③ **AUDIO button**

Press repeatedly to select one of the audio languages and/or audio formats programmed on a DVD.

For Video CD and CD, each press changes the audio output as follows.

Stereo → 1/L (Left) → 2/R (Right)

④ **DISPLAY button**

Press during playback to display statistical disc information. Press repeatedly to display different information.

⑤ **SETUP button***

Press when the player is in either play or stop mode to open and close the Setup screen.

⑥ **MULTI DIAL**

Use to control the rate of forward or reverse playback in Jog Mode.

⑦ **Light button (side panel)**

Use to illuminate the main operation buttons on the remote control. When pressed, the buttons light for approximately 3 seconds. This function is convenient for locating the command buttons when the room is dark.

⑧ **VIDEO ADJUST (V.ADJ) button**

Various attributes of the video presentation can be adjusted to suit the program type or personal preferences. Press **VIDEO ADJUST (V.ADJ)** to display the on-screen options.

⑨ **FUNCTION MEMORY (F.MEM) button**

Press to incorporate a menu item into a shortcut list that is stored in memory and can be called up at any time.

⑩ **PLAY ► button**

Press to start disc playback.

⑪ **STOP ■ button**

Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it was stopped. Pressing twice causes the disc to return to the beginning of the disc when playback starts again.

⑫ **PREVIOUS ⏮/NEXT ⏭ buttons**

During playback, press **PREVIOUS** ⏮ to go back to a previous chapter/track and **NEXT** ⏭ to advance to the next chapter/track.

⑬ **RETURN ↶ button***

Use to go one menu back (current settings are maintained). Use **RETURN** ↶ when you do not want to change the option setting in a menu.

⑭ **STEP/SLOW ◄II /II► buttons**

Press **STEP/SLOW II►** during playback to view slow playback. In pause mode, press **STEP/SLOW II►** to advance DVDs and Video CDs frame by frame and **STEP/SLOW ◄II** to back up a DVD a few frames at a time.

⑮ **Number buttons (1-9, 0, +10)***

Use to perform direct title and chapter/track searches, and to input numerical values.

⑯ **RANDOM button**

Press to play chapters/tracks in random order.

⑰ **LAST MEMORY button**

You can resume DVD or Video CD playback from the point you last watched even if the disc is removed from the player. Press **LAST MEMORY** during playback to set a Last Memory point. When you want to resume playback of that disc, press **LAST MEMORY** in the stop mode and playback starts from the memorized point. Last Memory locations can be stored for up to 5 DVDs (or 4 DVDs and 1 Video CD).

⑱ **OPEN/CLOSE ▲ button**

Press to open or close the disc tray.

⑲ **SUBTITLE button**

Press repeatedly to select one of the subtitle languages programmed on a DVD or to turn the subtitles off.

⑳ **ANGLE button**

Some DVDs are recorded with various camera angle playback options. Press **ANGLE** repeatedly to display different camera angles.

㉑ **TOP MENU button***

Press to call up the top menu programmed on the DVD. Depending on the DVD, the top menu may be identical to the DVD menu.

㉒ **Cursor control joystick***

Use to move the cursor through the options on menu screens and to change settings .

**ENTER button***

Press to implement settings selected with the cursor control joystick or to set items highlighted in a menu.

㉓ **DIMMER (FL) button**

Press to change the brightness of the FL display and disc illumination in four steps: maximum brightness, medium brightness, minimum brightness, and off. When the FL display is turned off, the FL OFF indicator on the front panel lights.

㉔ **JOG MODE indicator**

Lights red when the player is in the Jog Mode.

㉕ **JOG MODE (JOG) button**

Press to put the player in the Jog Mode. When this mode is on, the speed of playback of DVDs and Video CDs in both forward and reverse directions can be manually controlled by turning the MULTI DIAL in the respective direction.

㉖ **PAUSE II button**

Press to pause playback of a disc. Press again to resume playback.

㉗ **REV ◄◄ /FWD ►► (fast reverse/ fast forward) buttons**

During playback of DVD and Video CD, press **FWD ►►** to perform fast forward scanning. Press **REV ◄◄** to perform fast reverse scanning of DVD and Video CD. When a CD is loaded, audio scanning is performed.

㉘ **SEARCH MODE button**

Press to perform a title, chapter/track or elapsed time search.

㉙ **CLEAR button**

Works in conjunction with a number of player functions. Use to cancel repeat and random playback, and to edit programs .

㉚ **PROGRAM button**

You can program titles, chapters, or tracks to play back in a desired order. Programs can be a maximum of 24 steps. Additionally, DVD programs for up to 24 discs can be stored in the player's memory for future use.

㉛ **REPEAT button**

Press once to repeat playback of current chapter/track. Press twice to repeat playback of current title.

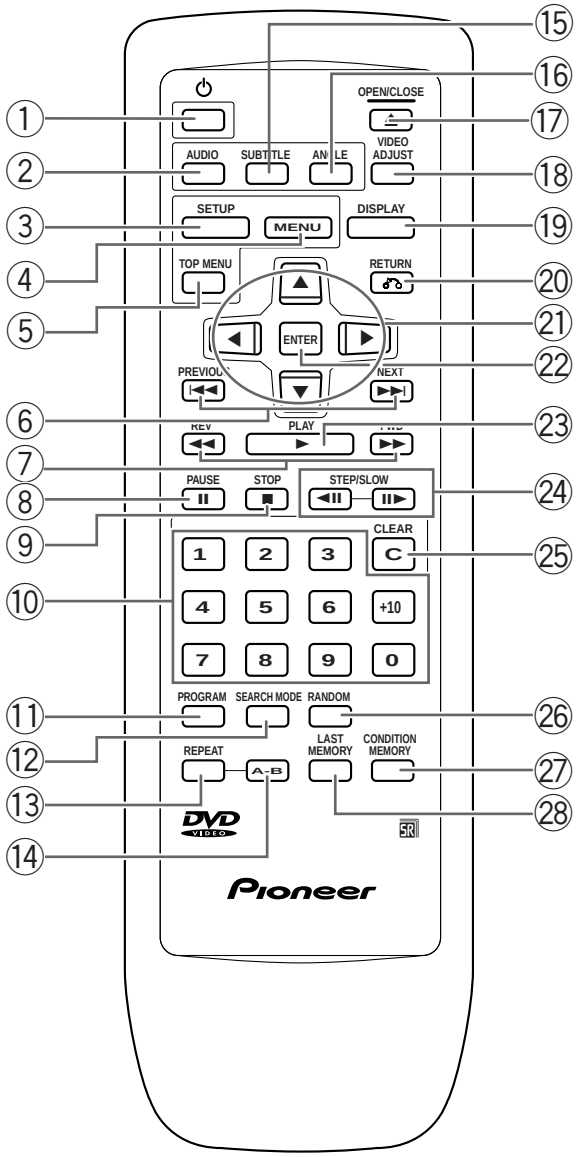
**A-B button**

Press at the beginning and end of the section you want to repeat or to mark a location you want to return to.

㉜ **CONDITION MEMORY button**

You can store in memory the settings for up to 15 DVDs. Press **CONDITION MEMORY** during DVD playback to memorize the settings.

## Remote Control Unit (VXX2644 (CU-DV050) : WY and WV types)




(Buttons indicated with * are used for menu operation.)

① **⏻ (standby/on) button**

Press to switch the player on or to put in standby.

② **AUDIO button**

Press repeatedly to select one of the audio languages and/or audio formats programmed on a DVD.

For Video CD and CD, each press changes the audio output as follows.

**Stereo → 1/L (Left) → 2/R (Right)**

③ **SETUP button***

Press when the player is in either play or stop mode to open and close the Setup screen.

④ **MENU button***

Use to display or close the DVD menu screen.

⑤ **TOP MENU button***

Press to call up the top menu programmed on the DVD. Depending on the DVD, the top menu may be identical to the DVD menu.

⑥ **PREVIOUS ⏮ /NEXT ⏭ buttons**

During playback, press **PREVIOUS** ⏮ to go back to a previous chapter/track and **NEXT** ⏭ to advance to the next chapter/track.

⑦ **REV ◄◄ /FWD ►► (fast reverse/forward) buttons**

During playback of DVD and Video CD, press **FWD ►►** to perform fast forward scanning. Press **REV ◄◄** to perform fast reverse scanning of DVD and Video CD. When a CD is loaded, audio scanning is performed.

⑧ **PAUSE ❚❚ button**

Press to pause playback of a disc. Press again to resume playback.

⑨ **STOP ■ button**

Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it was stopped. Pressing twice causes the disc to return to the beginning of the disc when playback starts again.

⑩ **Number buttons (1-9, 0, +10)***

Use to perform direct title and chapter/track searches, and to input numerical values.

⑪ **PROGRAM button**

You can program titles, chapters, or tracks to play back in a desired order. Programs can be a maximum of 24 steps. Additionally, DVD programs for up to 24 discs can be stored in the player's memory for future use.

⑫ **SEARCH MODE button**

Press to perform a title, chapter/track or elapsed time search.

⑬ **REPEAT button**

Press once to repeat playback of current chapter/track. Press twice to repeat playback of current title.

⑭ **A-B button**

Press at the beginning and end of the section you want to repeat or to mark a location you want to return to.

⑮ **SUBTITLE button**

Press repeatedly to select one of the subtitle languages programmed on a DVD or to turn the subtitles off.

⑯ **ANGLE button**

Some DVDs are recorded with various camera angle playback options. Press **ANGLE** repeatedly to display different camera angles.

⑰ **OPEN/CLOSE ⏏ button**

Press to open or close the disc tray.

⑱ **VIDEO ADJUST button**

Various attributes of the video presentation can be adjusted to suit the program type or personal preferences. Press **VIDEO ADJUST** to display the on-screen options.

⑲ **DISPLAY button**

Press during playback to display statistical disc information. Press repeatedly to display different information.

⑳ **RETURN ↶ button***

Use to go one menu back (current settings are maintained). Use **RETURN** ↶ when you do not want to change the option setting in a menu.

㉑ **Cursor buttons (◄/►/▲/▼)***

Use to move through the options on menu screens and to change settings.

㉒ **ENTER button***

Use to implement settings selected with the cursor buttons or to set items highlighted in a menu.

㉓ **PLAY ► button**

Press to start disc playback.

㉔ **STEP/SLOW ◄II /II► buttons**

Press **STEP/SLOW II►** during playback to view slow playback. In pause mode, press **STEP/SLOW II►** to advance DVDs and Video CDs frame by frame and **STEP/SLOW ◄II** to back up a few frames at a time.

㉕ **CLEAR button**

Works in conjunction with a number of player functions. Use to cancel repeat and random playback, and to edit programs.

㉖ **RANDOM button**

Press to play chapters/tracks in random order.

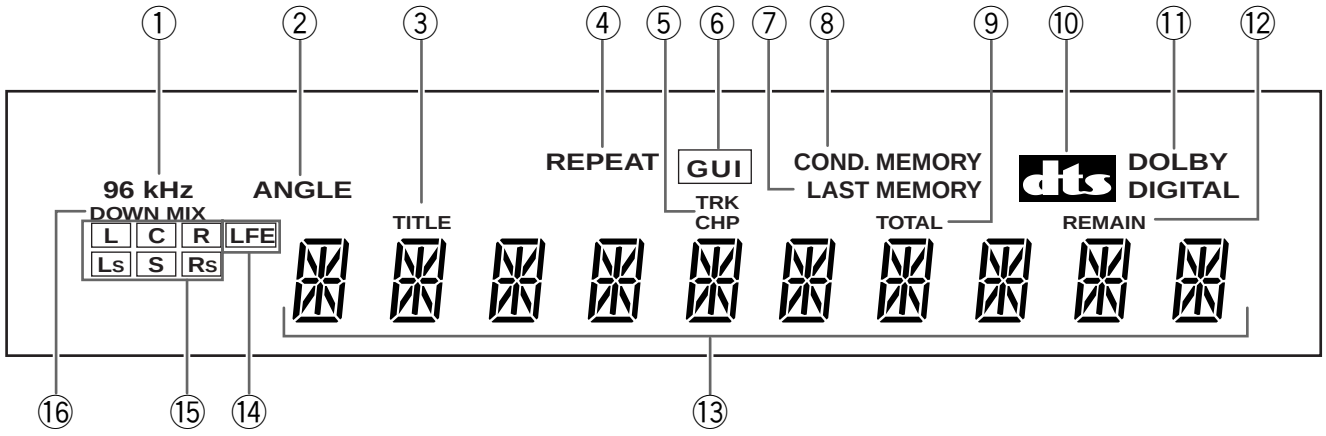
㉗ **CONDITION MEMORY button**

You can store in memory the settings for up to 15 DVDs. Press **CONDITION MEMORY** during DVD playback to memorize the settings.

㉘ **LAST MEMORY button**

You can resume DVD or Video CD playback from the point you last watched even if the disc is removed from the player. Press **LAST MEMORY** during playback to set a Last Memory point. When you want to resume playback of that disc, press **LAST MEMORY** in the stop mode and playback starts from the memorized point. Last Memory locations can be stored for up to 5 DVDs (or 4 DVDs and 1 Video CD).

## Display Window




① **96 kHz indicator**
Indicates that the currently loaded disc contains an audio signal with a sampling frequency of 96 kHz.

② **ANGLE indicator**
Indicates Multi-Angle playback is in progress.

③ **TITLE indicator**
Indicates a title number is being displayed.

④ **REPEAT indicator**
Indicates that the Repeat function is on and that the current title, chapter, or track is being repeated.

⑤ **TRK and CHP indicator**
Indicates a chapter or track number is being displayed.

⑥ **GUI indicator**
Indicates an on-screen menu operation is being performed.

⑦ **LAST MEMORY indicator**
Indicates the Last Memory location is registered in memory for the currently loaded DVD or Video CD.

⑧ **COND. MEMORY indicator**
Indicates that Condition Memory settings are memorized for the currently loaded DVD.

⑨ **TOTAL indicator**
Indicates that the disc in the player is stopped and **DISPLAY** has been pressed.

⑩ **DTS indicator**
Indicates DTS audio playback.

⑪ **DOLBY DIGITAL indicator**
Indicates Dolby Digital audio playback.

⑫ **REMAIN indicator**
Indicates that the remaining playback time of a title or chapter/ track is being displayed.

⑬ **Counter display**
Displays the playback mode, type of disc, title and chapter/ track numbers, playback time, etc.

⑭ **LFE channel indicator**
The LFE (low frequency effects) channel indicator indicates 5.1 channel audio that contains a channel for low frequency sounds that are used by the sub woofer.

⑮ **Program Format indicators**
Depending on the audio format recorded on the disc loaded in the player, the following indicators light to show the channels being played back.
**L** : Left front *1*2, **C** : Center *1, **R** : Right front *1*2,
**LS** : Left surround*1, **S** : Surround (mono) *2,
**RS** : Right surround*1
*1 : Lights to indicate playback of a 5.1 ch Dolby Digital source.
*2 : Lights to indicate playback of a Dolby Surround source.

⑯ **DOWNMIX indicator**
During multichannel audio playback, indicates that the out put signal has been “downmixed” from the original audio source. This is an automatic function performed by the player in order to present the most appropriate audio mix to the speakers present in your system.

# 8.2 SPECIFICATIONS

## ■ SPECIFICATIONS (KU and KC types)

**General**

System ..... DVD system and Compact Disc digital audio system
Power requirements ..... AC 120 V, 60 Hz
Power consumption ..... 19 W
Power consumption in standby mode ..... less than 0.9 W
Weight ..... 2.9 kg (6 lb. 6 oz.)
Dimensions ..... 420 (W) x 288 (D) x 104 (H) mm
($16\ ^{9}/_{16}$ (W) x $11\ ^{5}/_{16}$ (D) x $4\ ^{1}/_{8}$ (H) in.)
(Not including protruding cables, etc.)
Operating temperature ..... +5°C to +35°C (+36°F to +96°F)
Operating humidity ..... 5% to 85% (no condensation)

**S-Video output (2 individual outputs)**

Y (luminance) - Output level ..... 1 Vp-p (75 Ω)
C (color) - Output level ..... 286 mVp-p (75 Ω)
Jacks ..... S-VIDEO jack

**Video output (2 individual outputs)**

Output level ..... 1 Vp-p (75 Ω)
Jacks ..... RCA jack

**Component video output**

(Y, $P_B$, $P_R$)
Output level ..... Y: 1.0 Vp-p (75 Ω)
$P_B$, $P_R$: 0.7 Vp-p (75 Ω)
Jacks ..... RCA jack

**Audio output (2 pairs)**

Output level
During audio output ..... 200 mVrms (1 kHz, –20 dB)
Number of channels ..... 2
Jacks ..... RCA jack

**Audio output (5.1 CH)**

Output level
During audio output ..... 200 mVrms (1 kHz, –20 dB)
Number of channels ..... 6
Jacks ..... RCA jack

**Digital audio characteristics**

Frequency response ..... 4 Hz to 44 kHz (DVD fs: 96 kHz)
S/N ratio ..... more than 115 dB
Dynamic range ..... more than 103 dB
Total harmonic distortion ..... 0.002%
Wow and flutter ..... Limit of measurement
(±0.001% W. PEAK) or lower

**Digital output**

Optical digital output ..... Optical digital jack
Coaxial digital output ..... RCA jack

**Other terminals**

CONTROL IN ..... Minijack (3.5 ø)
CONTROL OUT ..... Minijack (3.5 ø)

**Accessories**

Remote control unit ..... 1
AA (R6P) dry cell batteries ..... 2
Audio cord ..... 1
Video cord ..... 1
Power cord ..... 1
Operating Instructions ..... 1

**Note**

The specifications and design of this product are subject to change without notice, due to improvement.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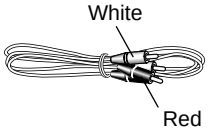
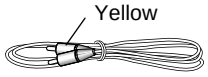
** "DTS" and "DTS Digital" are trademarks of Digital Theater System, Inc.


## ■ Accessories

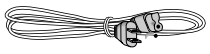
Audio Cord (L=1.5m): VDE1033



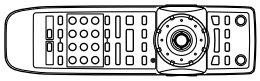

Video Cord (L=1.5m): VDE1034



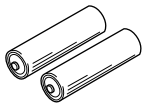

Power Cord: ADG7021



Remote Control Unit (CU-DV036): VXX2627



Dry Cell Battery (R6P,AA): VEM-013



## SPECIFICATIONS (WY and WV types)

**General**

System ..... DVD system and Compact Disc digital audio system
Power requirements ..... AC 220-240 V, 50/60 Hz
Power consumption ..... 20 W
Power consumption in standby mode ..... less than 0.9 W
Weight ..... 3.0 kg
Dimensions ..... 420 (W) x 288 (D) x 104 (H) mm
(Not including protruding cables, etc.)
Operating temperature ..... +5°C to +35°C
Operating humidity ..... 5% to 85% (no condensation)

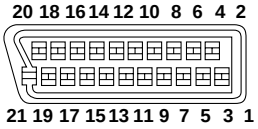
**S-Video output (2 individual outputs)**

Y (luminance) - Output level ..... 1 Vp-p (75 Ω)
C (color) - Output level ..... 286 mVp-p (75 Ω)
Jacks ..... S-VIDEO jack

**Video output (2 individual outputs)**

Output level ..... 1 Vp-p (75 Ω)
Jacks ..... RCA jack
AV connector input/output ..... 21-pin connector
This connector provides the video and audio signals for connection to a compatible color TV or monitor.

**21-pin connector assignment**




Pin no.

| | |
|---|---|
| 1 Audio 2/R out | 11 G out |
| 3 Audio 1/L out | 15 R or C out |
| 4 GND | 17 GND |
| 7 B out | 19 Video out or Y out |
| 8 Status | 21 GND |

**Audio output (2 pairs)**

Output level
During audio output ..... 200 mVrms (1 kHz, –20 dB)
Number of channels ..... 2
Jacks ..... RCA jack

**Audio output (5.1 CH)**

Output level
During audio output ..... 200 mVrms (1 kHz, –20 dB)
Number of channels ..... 6
Jacks ..... RCA jack

**Digital audio characteristics**

Frequency response ..... 4 Hz to 44 kHz (DVD fs: 96 kHz)
S/N ratio ..... more than 115 dB
Dynamic range ..... more than 103 dB
Total harmonic distortion ..... 0.002%
Wow and flutter ..... Limit of measurement
(±0.001% W. PEAK) or lower

**Digital output**

Optical digital output ..... Optical digital jack
Coaxial digital output ..... RCA jack

**Other terminals**

CONTROL IN ..... Minijack (3.5 ø)
CONTROL OUT ..... Minijack (3.5 ø)

**Accessories**

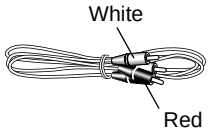
Remote control unit ..... 1
AA (R6P) dry cell batteries ..... 2
Audio cord ..... 1
Video cord ..... 1
Power cord ..... 1
Operating Instructions ..... 1

**Note**

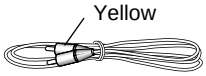
The specifications and design of this product are subject to change without notice, due to improvement.

## Accessories

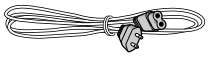
Audio Cord (L=1.5m): VDE1033




Video Cord (L=1.5m): VDE1034

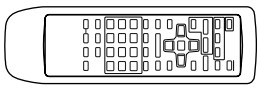



Power Cord : ADG1127 (WY type)



Power Cord : ADG7004 (WV type)

Remote Control Unit (CU-DV050): VXX2644



Dry Cell Battery (R6P,AA): VEM-013